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ABSTRACT

This Project L.E.A.F. guide to ecology and language development activities for the primary grades consists of separate sections for kindergarten and grade 1 and a combined section for grades 2 and 3. Project L.E.A.F.--Language, Environment (Ecology) and Families--involved 270 Wisconsin primary school students in a model program with three main goals: (1) to stimulate the development of oral and written communication skills through the study of ecology; (2) to involve parents and children in ecology-oriented activities; and (3) to create a greater awareness of ecology among elementary school children. Each grade section of the guide is divided into subject units geared to seasons of the year, with lesson plans within each unit providing a variety of suggested learning activities and lists of resource materials. Activities include art and construction projects, observation walks, gardening, caring for animals, field trips and experiments, as well as language development activities. The kindergarten and first grade sections (23 and 17 units) cover plants, insects, animals and weather. Grade 1 units are designed for one or more weeks. The second and third grade section consists of 9 units, with 6 to 14 lesson plans per unit and a 23-plan unit on environmental writing. Subject areas for grades 2-3 are forest, prairie, pond and wetland, desert and jungle environments, and pollution problems. (BF)

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Language, Ecology, and Families.
A guide to K - 3 language/ecology activities from
Project L.E.A.F. supported by Title III CESA
Monroe Elementary School, Janesville, Wisconsin.

LANGUAGE, ENVIRONMENT, AND FAMILIES

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INTRODUCTION

Beginning in the spring of 1973, PROJECT LEAF has involved Monroe School students, parents, and teachers in a wide variety of activities ranging from vegetable gardening and energy conservation to poetry writing and puppet show production.

Financed by Title III of the Elementary and Secondary Education Act, the project was designed to meet local needs. A city-wide survey in 1970 revealed needs in the areas of a) a more positive home-school relationship, and b) further development of early childhood education, specifically in communication skills. The national concern for the environment was the vehicle used to bring together these needs.

The three major goals of PROJECT LEAF are:

1. to stimulate the development of oral and written communication skills through ecology

2. to involve parents and children in ecology-oriented activities

3. to create a greater awareness of the environment among elementary students.

With the kindergarten students the emphasis is on oral communication and a specific objective is that the students be able to create oral stories of at least three sentences in length by the end of the school year. A writing objective for first graders is the creation of stories at least five sentences in length, while second graders aim at compositions of at least two paragraphs or two related thoughts.

The stories and poetry created by the students is usually based on some environmental experience, and this LEAF guide presents many of the environmental ideas along with suggestions for language development. Students in the LEAF program participate daily in such projects as the school gardens, seasonal field trips, observation walks on the school grounds, caring for animals, picking up litter, or feeding birds. Second and third grade students focus on five different eco-systems - forests, deserts, prairies, jungles, and wetlands. Parents involvement is an important part of the program with parents participating in many of the activities described in this guide.

Outside evaluation for PROJECT LEAF was provided by the UW Research and Development Center. The project has also been validated for national dissemination by the U.S. Office of Education.

KINDERGARTEN

Kindergarten students participate daily in evnironmental/language arts activities, usually spending from 20-30 minutes per day. The activities presented in this guide are arranged by season in the form of mini-units. Some units would last only one day, while others could go on for a week to ten days.

KINDERGARTEN - TABLE OF CONTENTS

You and Your Environment.................................... 3

An Introduction to Fall..................................... 7

Plants in Fall.. 9

Pumpkins...11

Vegetables...15

Apples...19

Insects..25

Seeds..29

Animals in Fall..33

Trees in Autumn..37

Fog..39

Evergreens...41

Re-cycling - Projects for Christmas........................43

Animals in Winter..45

Animals Tracking...47

Climates...55

Indoor Gardening...59

Temperature: Snow and Ice..................................63

Trees in Spring..67

Wind, Air, and Sky...73

Plants in Spring...81

Wild Animals in Spring.....................................85

Farm Animals in Spring.....................................88

ECOLOGY CONCEPTS - PROJECT L.E.A.F.

I. All living things depend on each other and their environment.

II. The sun is necessary for life.

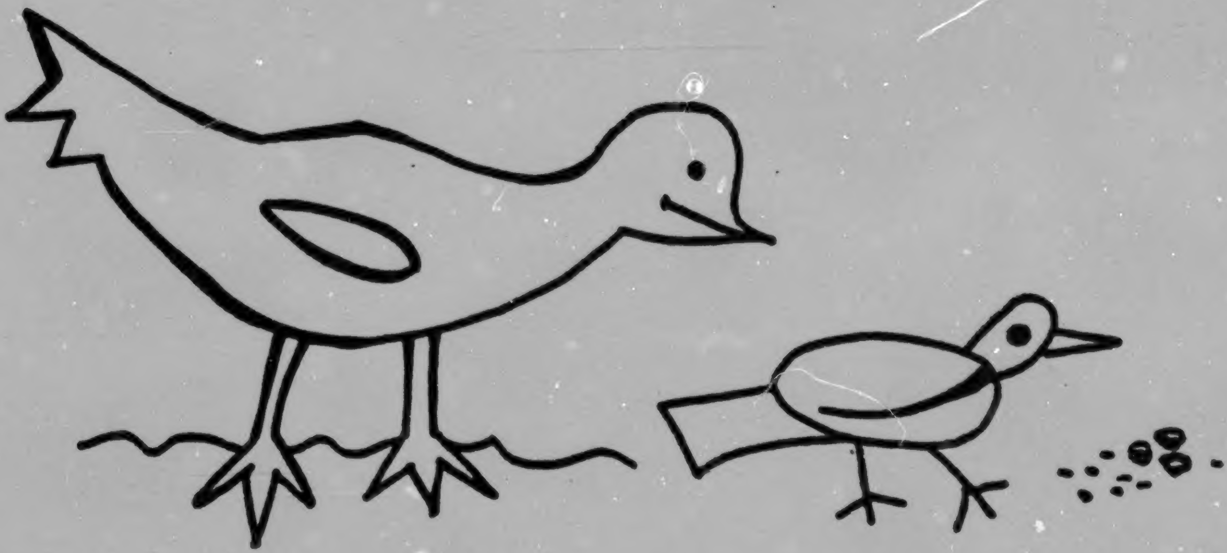
III. The environment determines the community.

IV. An adequate supply of pure water, clean air, and fertile soil is necessary to life.

V. Natural resources are limited.

VI. Man can change his environment.

VII. Man must appreciate and respect his environment and all living things in it.



YOU AND YOUR ENVIRONMENT

OBJECTIVES

1. The children will learn more about themselves and each other.
2. The children will become aware of their five senses.
3. The children will use their senses to observe their environment and become aware of nature in their daily routine.
4. The children will increase their vocabularies through discussion, games, and story dictation.

ACTIVITIES

1. SELF PORTRAITS Each child will draw a picture of himself and dictate a story about himself. Each child will share his picture with the group and tell something about himself.
2. GROWTH CHARTS Measure and weigh each child in the fall and again in the spring. Record on a chart.
3. Read My Five Senses or some other story about senses as an introduction.
4. SENSE HIKE The class will go outdoors to use senses to learn about their environment. In small groups with adult leaders (teachers, parents, or aides) have the children discuss what they can see, smell, touch, hear, and taste. Encourage each child to participate and to use complete sentences such as "I see a bird" or "I can feel the wind".

5. ON THE WAY TO SCHOOL I SAW AND I HEARD   Each child will recall what he has seen and heard on his way to and from school. List all responses on the board dividing list into categories of see and hear.

6. HULA HOOP ENVIRONMENT   Each child is given a hula hoop and asked to experiment to see how many different things he can do with it. Then each child tosses his hoop on a grassy part of the playground. Each child spends several minutes closely observing the things growing in his hula hoop area and discussing his observation with his partner, a parent, or the teacher. Each child draws his own picture of his hula hoop environment and dictates or writes a story about what he sees. Materials: clipboards, paper with circle drawn on it to represent the hoop, lined paper for stories, pencils and crayons.

7. COLORS IN NATURE   Assign a different color for each day including a discussion of the chosen color in nature, tasting and smelling different colored fruits and vegetables.

8. OUTDOOR DISCUSSION CIRCLE to acquaint the child with the terms "ecology" and "nature." What is nature? Everything that is not man made. What is ecology? How we live together with nature. Each child should contribute one thing that he knows is part of nature.

9. ECOLOGY SHARING   Inform parents by a note that on one day of each week will be time for ecology sharing. Children may bring some object from nature to share with the class. Parents should discuss the object with the child prior to the sharing with the class so that the child will have something interesting to say about his object.

10. ARRANGE A LEARNING CENTER   Start a collection of natural objects that are found in our environment. Keep them on a table where children may see and touch them. Copies of Ranger Rick magazine and other nature picture books could also be kept on the table.

11. Read Wilson's World aloud to the class. A good introduction to ecology and "caring about our world."

RESOURCES

E Aliki, My Five Senses, New York, Thomas Y. Crowell Publishing, 1962.

E Beranstain, Stan and Jan, The Bear's Almanac, Beginner Books, 1973.

E Hurd, Edith Thatcher, Wilson's World, New York, Harper and Row, 1971.

E Hankinson, Lucy, Days I Like. Albert Whitman Publishing, 1965.

E Radlauer, Ruth Shaw, About Four Seasons and Five Senses, Chicago, Melmont Publishers, 1960.

Reit, Seymour, The Magic of Everyday Things, New York, Western Publishing, Inc.

E Tudor, Tasha, Around The Year, Henry Z. Walck, Inc. 1957.

A-V Materials

TR
Kit "An Apple Is Red", Bowmar Early Childhood Series, 1967.
E

TR
E Clure, Beth, and Runsey, Helen, "How does it feel?" Glendale, California, Bowmar Early Childhood Series, 1969.
B

LITTLE SOUNDS

Beatrice Schenk de Regniers

Underneath the big sounds
underneath the big silences
listen for the little secret sounds.
Listen
ts ts
That is the little sound of the sugar,
the little loaf of sugar
deep inside the cup of hot black coffee.
ts ts
That is what the sugar says.

Listen for the little secret sounds.
Sh! be very quiet and listen.
tck tck tck tck tck tck tck tck
That is the little sound of your father's
watch.
tck tck tck tck tck tck tck tck
It makes such a tiny hurrying scurrying
sound.

Listen for the little sounds always.
When a pussycat licks her fur
can you hear a little sound?
When someone is licking an ice-cream cone
can you hear?

Did you ever hear
a rabbit biting a lettuce leaf?
a cow switching her tail?
a tiny baby breathing?

Listen
to the little sound of
a letter dropping into a letter box,
a pin falling to the floor,
a leaf falling from a tree,
dry leaves crunching under your feet.
Listen to the little secret sound
of a pencil writing on paper
of scissors snipping your fingernails,
of a flower stem breaking when you pick a flower.
Listen for the little sound always -
listen.

AN INTRODUCTION TO FALL

OBJECTIVES

1. The class will observe the seasonal change from summer to fall.

2. The children will increase their vocabularies by identifying such fall signs as acorns, changing leaves, birds flying south, cocoons, and seeds.

ACTIVITIES

1. Show filmstrip "Autumn in My Neighborhood" or "All my Seasons." The film strips raise questions to motivate the children to explore their own environments.

2. SIGNS OF FALL WALK - The class in small groups with adult leaders will take a walk to look for signs of autumn in their school environment. They will look at flower and vegetable gardens. They will look at trees, and wild flowers, and grasses. Upon their return from their walk each group will compose a story about their experience.

3. FALL MOBILE - Have each child bring in a sign of fall. Encourage each child to tell something about his sign. Use a large branch and attach the signs of fall to the branch - such items as pine cones, leaves, and corn work well. Colored leaves and fall flowers may also be preserved in contact paper and attached to the mobile by thin strings.

4. MAKE A CLASS TREE - The story I Have a Tree makes a good introduction for this activity. Use construction paper to make a tree trunk on a bulletin board. Children finger paint, using red and yellow paints, on a 12 x 18 sheet of paper. After the paint has dried, have the children paint an outline of a leaf in black. Cut out leaves and attach to class tree.

5. SEED COLLECTING - Collect seeds on the school grounds or have children bring seeds from home. Place the dried seeds in small plastic bags or in clear bottles. Seeds in bags may be labeled and attached to a poster board or labeled bottles could be part of an ecology interest center.

6. MEASURE A SHADOW - Keep a class chart recording the length of a tree shadow each season at the same time of day to show the effect of the earth's angle to the sun each season.

RESOURCES - BOOKS

E Chaffin, Lillie D., I Have a Tree, New York, David White, 1969.

E Kessler, Ethel and Leonard, All For Fall, Parents' Magazine Press, 1974.

E Lenski, Lois, Now It's Fall, Walck Inc., 1948.

E Parker, Bertha Morris, Fall Is Here, Golden Press, 1962.

E Tresselt, Alvin, Autumn Harvest, Lathrop, Lee & Shepard, Inc.

581
W Wong, Herbert, Where Can Cattails Grow?, Addison-Wesley, 1970.

A-V Materials

FSg
525 Dardy, Jim, "Autumn is Here", film strip.
A

FS
525 "All My Seasons", film strip/cassette, McGraw-Hill
A Book Company, 273021.

FSg
525 "Autumn and Winter", film strip, Eye Gate House.
A

SFSg
574.5 "Autumn in My Neighborhood", Changing Seasons Series,
C SVE educational filmstrip.

"Autumn is an Adventure", K - 1 film, Janesville cable.

CHAg "Let's Take a Walk in Fall", game, story, finger plays
525 using the senses to learn about fall, The Child's
L World Inc., Elgin, Ill., 1971.

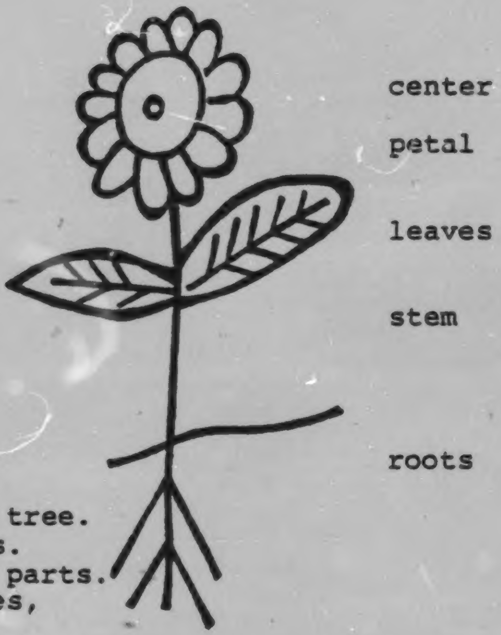
PLANTS IN FALL

OBJECTIVES

1. The children will become aware of the fact that there are many plants.
2. The children will be able to explain the simple parts of a flower.
3. The children will be able to name flowers which blossom in the fall.
4. The children will be able to identify the needs of a plant.
5. The children will be able to tell why plants are important to us.

ACTIVITIES

1. Have the children look at a live plant and at a diagram of the parts of a plant. Flannel board plant parts or paper parts could be used. Have each child make a plant out of scrap paper.
2. GARDEN WALK - Walk to the school garden or some neighborhood garden. Learn the names and characteristics of fall flowers in bloom.
3. TREE CIRCLE - Sit around a tree on the school grounds. Ask the children what they can tell about the tree. Ask if they can name some of the parts. Discuss the importance of the various parts. Why are trees important? (Animal homes, shade, lumber, fruit, etc.)



4. PLANT GAME - Outdoors play a game in which each child will take a turn and run to a plant and stop. The class will try to identify the type of plant such as tree, flower, shrub, grass, weed, vegetable, hedge, etc. Discuss the characteristics of each.
5. PLANT PRODUCTS - Discuss the uses of plants and show some examples of various products from plants. Send a note home to parents asking that each child bring to school an item that can be traced to a plant - such as paper, a cotton handkerchief, a wooden pencil, a corn cob, etc. The child should tell the class the source of the item he has brought.

6. PLANT PUZZLES - Cut off the flower, leaves, seeds, buds, roots and have each child reassemble the plant. If possible, visit an area with many small plants and have each child make his own plant puzzle and exchange with a friend.

7. FEELY BOX - Put one plant part in the box. Have one child feel and identify the part.

8. DRIED FLOWERS - Flowers that children bring in may be dried by being tied upside down to hanger or branch. They should be dried in a dark room to help preserve the color. Later they may be used for shadow boxes, or for decorative bell jars. A mayonnaise jar or some other jar becomes a bell jar when turned upside down. A lump of clay in the jar lid serves as a base for the arrangement of dried flowers.

RESOURCES

See resources listed in previous unit on fall.

PUMPKINS

OBJECTIVES

1. The children will review how vegetables are produced.

2. The children will compare raw pumpkin to processed pumpkin.

3. The children will carve a pumpkin, roast pumpkin seeds, and make pumpkin muffins.
4. Parents will be involved in working with small groups of children.

LEARNING ACTIVITIES
1. PUMPKIN PATCH - If possible, take a walk to a pumpkin patch. Discuss the appearance of the pumpkins, vines, etc. Review the word "harvest."

2. JACK-O-LANTERN - As a group plan how to go about carving the pumpkin and decide about the design. Work in small groups to carve the pumpkin with an aide, teacher, or parent. Save the pumpkin seeds. Dry the seeds on waxed paper and save for roasting. See roasting instructions in lesson titled SEEDS.

3. Have the children record stories about the pumpkin patch or carving the pumpkin.

4. PERKY PUMPKIN - See story on following page.

5. PUMPKIN MUFFINS - Ask for volunteers to bring the ingredients for pumpkin muffins or cupcakes and for parents to help with the preparation. Prepare the muffins in two groups (half of the following recipe for each group.) The day after baking, frost and eat. These may be used for a Halloween treat. Follow up by writing thank you notes to the parents who helped.

RECIPE

4 eggs
2 C. sugar
1 16 oz. can pumpkin
3/4 C. melted margarine
(cooled)

2 C. flour
2 tsp. baking powder
1 tsp. soda
1/2 tsp. cinnamon
1 C. chopped nuts

Combine eggs, sugar, pumpkin, and margarine. Add remaining ingredients and stir. Pour into greased and floured muffin cups of cupcake papers. Bake 20-25 min. at 325 degrees.
Frosting: 3 oz. cream cheese, 1 tsp. vanilla, 3 C xx sugar,
6 Tbsp. margarine, and 1 Tbsp. milk or cream.

RESOURCES - BOOKS

E Spicer, Nora, Proud Pumpkin, Unwin, Dutton and Co. 1953.

E Tudor, Tasha, Pumpkin Moonshine, Walck, 1966.

PERKY PUMPKIN'S OPEN-HOUSE SURPRISE

Once upon a time there was a little man who liked pumpkins so much he even looked like one. He had bright orange skin, all shiny and smooth. Everybody call him Perky Pumpkin.

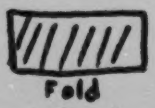
Perky liked everything about pumpkins. He enjoyed eating them, whether cooked as a vegetable or baked as a pie and he especially enjoyed the pumpkin seeds: sometimes he made pretty designs with them and sometimes he made funny pictures with them. Sometimes he even did number work with them--he spent hours making sets of two, three, four and five. Perky's best friend was Kate the Cat. She was black and silky and had a soft, contented purr.

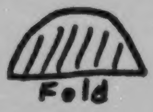
Perky and Kate went everywhere together and played everywhere together all summer and early fall. But then the days became cool and Halloween time neared.

Perky began to think how nice it would be to have a warm, snug, house of his own, instead of sleeping out in the fields among the pumpkin vines. He mentioned it to Kate and they decided to find a house together.

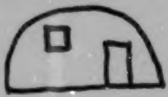
One crisp, fall morning they set out. In front of a school they found a large piece of orange paper. "My favorite color," said Perky. "It's just what we need," Kate agreed.

With Kate's help, Perky tugged and pushed and pulled until he put the paper together like this (fold paper in half). With a pair of scissors, Perky carefully and slowly rounded off the corners, so the paper looked like this:



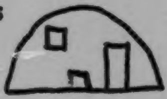


"Meow," said Kate. "Let's set it up and take a look at our work." And for a time, they just smiled in admiration.

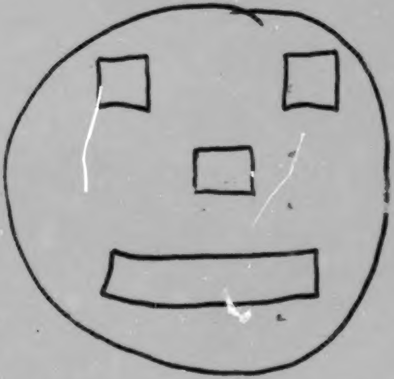
But then Perky remembered he would need a door. He cut out a tall one like this: "I think I'll add a window, too," he said. And he did, like this: 

Perky was pleased with himself. But not Kate--she was curious to know where she came in. "Meow...Meow," she grumbled.

Perky laughed. He quickly added another door--a teeny, tiny one that was just the right size for a rather thin cat. "This will always be open so you can come in and out as you like," Perky said. Kate purred her thanks. On Halloween night, Perky and Kate invited all the Mother Goose and storybook friends to an open-house party. And when they opened the house to their friends, everyone was surprised and delighted--including Perky and Kate. For this is what they saw:



Just what Halloween needs--a nice,



round Jack-O-Lantern.

VEGETABLES

OBJECTIVES

1. The children will be able to identify five garden vegetables.
2. The children will taste vegetables, raw and cooked.
3. The children will become aware of the production of vegetables.
4. The children will tell a story related to vegetables.
5. The children will become aware of the world around them.
6. The children will enlarge their speaking vocabularies.

LEARNING ACTIVITIES (Suggested for fall)

1. NAME THE VEGETABLE - Place cards with pictures of vegetables backside out on a card holder or chalkboard. Work in small groups, allowing each child the opportunity to select a card, name the vegetable pictured, and return it to the ledge. Several cards may be repeated; in this way if there is a vegetable which cannot be identified the first time through, the children will become aware of its name on the second time. Make up riddles and have the class identify the vegetable that is the answer to the riddle. Cards may also be classified by color. A set of vegetable cards is included in the Peabody Language Development Kit, Level I.
2. THE CARROT SEED - Use the book and record The Carrot Seed by Ruth Krause, which shows the growth of a carrot from planting to harvest.
3. VEGETABLE WALK - Take a walk to the school garden or a neighborhood vegetable garden. Identify the vegetables.

4. SHARE A VEGETABLE - Send home a note requesting that each child select a vegetable to bring to school to share with his classmates. These vegetables may then be stored in the refrigerator and used to make vegetable soup.

5. MMMM . . . GOOD - Make vegetable soup. Parent volunteers are helpful with this activity. Each child should pare his vegetable with a plastic knife. Excellent soup can be made by combining a variety of garden vegetables such as carrots, potatoes, tomatoes, one onion, celery, green pepper and green beans in a pot of water seasoned with beef boullion cubes or powder and a little salt. Place the hard vegetables in the water first, later add the softer vegetables and simmer for 1 - 2 hours. During the soup making, talk about the feel of the vegetables. Compare their textures, skins, odors, and insides. Point out the parts that could be used to start new plants.

6. SOUP KETTLE ACTION SONG - Use a large kettle and vegetables from the Peabody kit. Adapt the song "Polly put the kettle on" to

   Janie (child's name) put the carrot in, carrot in, carrot in.
   Janie put the carrot in. We'll all have soup.

7. FEELY BAG - Put plastic vegetables (Peabody Kit Level P) or real vegetables into a bag. Have the children take turns reaching into the bag and describing what they feel. Encourage them to respond with sentences such as "I feel something smooth and long. I think it is a bean, etc."

8. RHYMES - Talk about rhyming words and have the children dictate a two line rhyme such as: Look at the bean. It is green.

9. Have each child draw a picture showing five vegetables. Have the child tell the name of each vegetable and record their names on the pictures.

10. Use a long piece of shelf paper. Place on the floor and have each child in the class draw and color a vegetable for a class "garden."

11. Play a game with toy telephones with one child as the customer ordering vegetables from the store keeper.

RESOURCES - BOOKS

635
B Beck, Barbara L., *Vegetables*, Watts, 1970.

581
D Darby, Gene, *What is a Plant?*, Chicago, Benefic Press, 1960.

581
M May, Julian, *Why Plants Are Green Instead of Pink*, Mankato, Minnesota, Creative Educational Society.

581
S Selsam, Millicent E., *The Tomato and Other Fruit Vegetables*, William Morrow, 1970.

581
S Selsam, Millicent E., *Vegetables With Stems and Leaves*, William Morrow, 1970.

581
W Weber, Irma E., *Up Above and Down Below*, William Scott Inc., 1943.

580
Z Zim, Herbert S., *What's Inside of Plants?*, William Morrow and Company, 1952.

A-V Materials

Krauss, Ruth, "The Carrot Seed", book with record, Harper and Row, 1945.

398.2
B "Stone Soup", Kit, Weston Woods Sound Filmstrips.

635
S "The Story of Fruits and Vegetables", Society for Visual Education Filmstrip, 1965.

APPLES

OBJECTIVES

1. The children will associate blossoms with fruit.

2. The children will recognize the importance of the bee in producing fruits and vegetables.

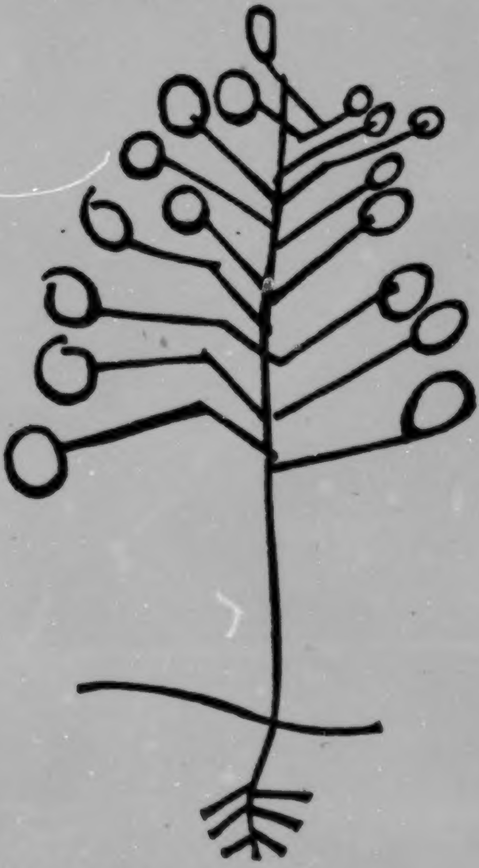
3. The children will have the experience of visiting an apple farm and making applesauce.

4. The children will be better able to express themselves orally.

LEARNING ACTIVITIES

1. INTRODUCTION - Use an illustration showing the change which occurs in the apple tree from blossom to fruit. Discuss the development of the apple as well as the role the bee plays in the cycle. (An illustration of this sort appears in Science in the Elementary School.)

2. APPLE ORCHARD FIELD TRIP - Introduce the word orchard. Arrange for a visit to an apple farm. Make arrangements with orchard several weeks in advance and request parent volunteers to help with the experience. When you return from the farm, have the children draw a picture of the part of the orchard they liked the best and dictate a sentence about the picture.



3. GROUP STORY - Write a group story about the trip to the apple orchard.

4. MAKE APPLESAUCE - Parent help is needed with this activity. Simple applesauce can be made by having each child cut his apple in quarters and remove the seeds, using small plastic knives left over from hot-lunch program. Place cut fruit in electric fry pan partly filled with water. Cook, stirring frequently, until apples are soft. Sweeten to taste and add cinnamon if desired. When cool, spoon into paper cups for children. Discuss its taste (sweet or sour) and compare it to the taste of a raw apple.

5. WRITE THANK-YOU NOTES to the orchard and to the parents who helped with the fieldtrip and applesauce.

6. READ An Apple is Red, The Story of Johnny Appleseed, or SHOW the "Johnny Appleseed" filmstrip.

7. TELL THE STORY OF "THE LITTLE RED HOUSE WITH NO DOORS" using a real apple for the surprise ending. See story on following pages.

8. APPLE POETRY - Enjoy "Our Tree" from Poems Children Will Sit For or "Hurrah for the Apple Tree" or learn this finger play.

Two little apples on an apple tree
Two little apples smiled at me
I shook that tree hard as I could
Down came the apples - MMMMM were they good.

"Hurrah for the Apple Tree"

I'm fond of the good apple tree;
A good natured fellow is he.
Knock at his door whenever you may
He always has something to give away.

Shake him in winter; on all below
He'll send down a shower of snow;
And when the spring sun is shining bright,
He'll fling down blossoms pink and white.

And when the summer comes so warm,
He shelters little birds safe from harm;
Shake him in autumn, he will not fail
To send you down apples thick as hail.
Therefore it cannot wonder he
That we sing "Hurrah for the apple tree."

RESOURCES - BOOKS

E Aliki, *The Story of Johnny Appleseed*, Prentice-Hall, 1963.

E Curry, Nancy, *An Apple is Red*, Bowmar Early Childhood Series: Part II - The World Around Me, 1967.

TR 808.81 D *Poems Children Will Sit Still For*, Scholastic Books, 1973.

A-V Materials

"Fresh Country Apples", a FREE LOAN film, 17 minutes, color, 16 mm-sound is available from the Washington Apple Commission, P.O. Box 18, Wenatchee, Washington, 98801.

FS 920 A "Johnny Appleseed, " filmstrip, American Folk Heroes series, Encyclopedia Britannica Education Corp., 1953.

THE LITTLE RED HOUSE WITH NO DOORS -- author unkrown

There was once a little boy who was tired of his picture books and tired of all his toys, and tired of all his play. So he asked his mother, "What shall I do?" His dear mother always knew beautiful things for little boys to do, and she answered "You shall go on a trip and find a little red house with no doors and with a star inside".

Then the little boy's eyes grew big with wonder. "Which way shall I go," he asked, "to find a little red house with no doors and a star inside it?" "Down the lane and past the farmer's house and over the hill," said his dear mother. "Come back as soon as you can, and tell me all about your journey."

So the little boy put on his hat and his jacket and started out. He had not walked very far in the lane when he came to a merry little girl dancing along in the sunshine. Her cheeks were like pink blossom petals, and she was singing like a robin, "Do you know where I shall find a little red house with no doors and a star inside?"

The little girl laughed, "Ask my father, the farmer," she said. "Perhaps he knows." So the little boy went on until he came to the great red barn where the farmer kept barrels of fat potatoes and baskets of yellow squashes and golden pumpkins. The farmer himself stood in the doorway looking over the great pastures and the yellow grain fields. "Do you know where I shall find a little red house without any doors and with a star inside?" asked the little boy of the farmer. The farmer chuckled, "But you go and ask Granny who lives at the foot of the hill. She knows how to make taffy candy, and popcorn balls, and red mittens. Perhaps she can tell you."

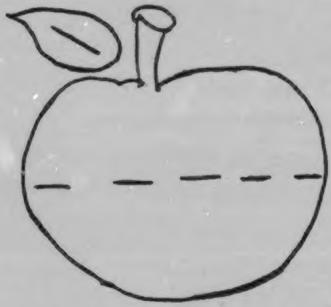
So the little boy went on still farther until he came to Granny's. She was sitting in her pretty flower garden and smiling into the sunshine. "Please Granny," said the little boy, "where shall I find a little red house with no doors and a star inside?" Granny was knitting a little red mitten, and when she heard the little boy's question, she laughed so merrily that the wool ball fell off her lap and rolled down to the pebbly path. "I should like to find that little house myself," she chuckled. "It would be warm when the frosty nights come and the star-light would be prettier that a candle. But you ask the wind who blows about so much and listens in at all the chimneys. Perhaps he knows."

So the little boy took off his hat very politely to the granny and said, "Thank you," and went on up the hill rather sadly. He wondered if his dear mother, who usually knew almost everything, had perhaps made a mistake. The wind was just coming down the hill as the little boy climbed up. As they met, the wind turned about and pushed him, and dropped a little leaf in his hands to show what a good friend he was. "Oh, wind," asked the little boy after they had gone along together quite a way, "Can you help me find a little red house with no doors and a star inside?" Now the wind cannot speak in our words, but it climbed up in an apple tree. When the little boy came up to the tree he said, "Apple tree, big apple tree, throw a big one down to me." And the wind shook the branches and down at his feet fell a great rosy apple.

The little boy picked up the apple. It was so large it was as much as his little hands could hold. It was as red as the sun had been able to paint it, and the thick brown stem stood up as straight as a chimney. It was a little red house in which the apple blossom fairy had gone to sleep. It had no doors.

"I wonder," thought the little boy, as he called to the wind, "Thank you," and the wind whistled back, "You're welcome." And then the little boy ran home to show his mother that he had found the little red house. She took a knife and cut the apple through the center. And what do you think? There inside the apple lay a little star, holding the brown seeds.

Cut this way ......



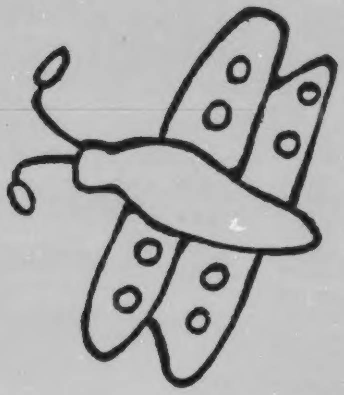
INSECTS

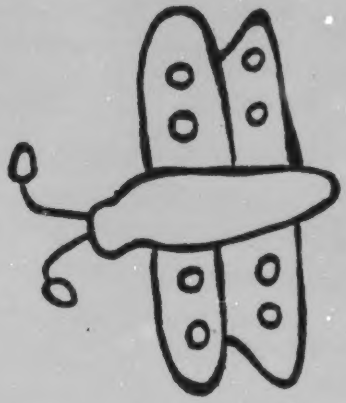
OBJECTIVES

1. The children will be able to name the main parts of an insect - head, body, and six legs.

2. The children will be able to identify a butterfly, caterpillar, bee, and ant.

3. The children will be able to list two ways that insects help us and two ways that insects harm us.





ACTIVITIES

1. INSECTS PARTS - Use a transparency of an insect to discover that an insect has six legs and three body parts.

2. COOTIE INSECTS - Use the pieces from the game "Cootie" to construct an insect and show the various parts.

3. MAKE-AN-INSECT - Give each child a 6" oval cut from fabric scraps. He is to glue it to a piece of 9" x 12" construction paper and then draw in the remaining two body parts and the six legs.

4. HULA HOOP INSECT WORLDS - Each child or pair of children takes a hula hoop out onto the school grounds. The children throw the hoops and then carefully examine the different aspects of plant and animal life found within the area of the hoop. If all hoops do not have insects, the children may take turns examining hoops which do have insects.

5. GARDEN WALK - Take the class on a walk by the school or neighborhood gardens. Look for insects which might be on the leaves, stems, blossoms, or on the ground.

6. INSECT PICTURES AND STORIES - Give each child a 12" x 18" manila paper and ask him to draw a garden and to put at least three insects in the picture. After the picture is complete, each child should dictate a short story to be written on the picture. The story could be about the ways that insects help us and harm us.

7. MICROSCOPE STUDY - Set up a microscope in the interest center with several different insects available for the children to look at. Encourage children to bring collected insects for the interest center. Small SEE magnifying boxes could be used instead of the microscope.

8. EGG CARTON ANTS - Cut an egg carton into four pieces; each piece will have three egg spaces in a row. Paint the sections to represent the three body parts. Add pipecleaner legs and antennae. Use construction paper to cut pieces for eyes, mouth, etc.

CATERPILLARS AND BUTTERFLIES

OBJECTIVES

1. The children will share their own experiences with caterpillars and butterflies.

2. The children will learn the relationship between caterpillars and butterflies.

ACTIVITIES

1. LIFE CYCLE OF A BUTTERFLY - Use transparency "The Life Cycle of a Monarch" for an introduction. The See-ques puzzle on the monarch may also be used. Discuss caterpillars and allow children to tell of their own experiences with them.

2. READ ALOUD - Johnny and the Monarch, Creepy Caterpillar, or The Very Hungry Caterpillar. After hearing the hungry caterpillar story, children could make up sentences starting with "If I were a very hungry caterpillar, I would eat . . ."

3. MAKE YOUR OWN CATERPILLAR - Provide four inch squares of colored paper (use yellow and black for Monarch caterpillar) and one five inch square for each child. Have children make circles by rounding off the corners. Glue circles together, slightly overlapping. Use the largest circle for the head. Add details of eyes, mouth, antennae, etc. cut from scrap paper. Allow time at the end for each child to dictate a story about his caterpillar.

4. MAKE A MONARCH - Squash orange newsprint in the middle so that it resembles a bow. Cut strips of black construction paper in 2" x 14" pieces. Have children wrap black strip around middle of bow. Children may then add antenna, legs, wing markings, etc.

5. CATERPILLARS IN YOUR CLASS - A caterpillar may be kept in a large jar with air holes. Be sure the caterpillar has fresh leaves and a twig to spin its cocoon on. Monarch caterpillars need milkweed leaves. When the cocoon is finished, place the jar in a cool place for the winter. Do not let it get too warm. When the daffodils begin to open in the spring, it will be time to start watching for your butterfly.

CATERPILLARS AND BUTTERFLIES

FUZZY WUZZY, CREEPY CRAWLY

Fuzzy wuzzy, creepy crawly
Caterpillar funny,
You will be a butterfly
When the days are sunny.

Winging, flinging, dancing, springing
Butterfly so yellow,
You were once a caterpillar,
Wiggly, wiggly fellow.

Lillian Schultz

RESOURCES - BOOKS

E Berg, Jean Horton, Big Bug, Little Bug, Chicago, Follett Publishing Co., 1964.

E Carle, Erik, The Very Hungry Caterpillar, Cleveland, Ohio, Collins-World.

E Daly, Kathleen, Ladybug, Ladybug, American Heritage Press, 1969.

595.7 Farb, Peter, The Insects, Life Nature Library, Time-Life, 1962.

E Friskey, Margaret, Johnny and the Monarch, Children's Press, 1964.

595.7 Hornblow, Leonora, Insects do the Strangest Things, Random House, 1968.

E Jaynes, Ruth, That's What It Is, Bowmar, 1968.

595.7 May, Julian, The Life Cycle of the Monarch Butterfly.

E Selsam, Millicent, Terry and the Caterpillars, Harper and Row, 1962.

Smith, Garry and Vesta, Creepy Caterpillar, Austin, Texas, Steck-Vaughn Co., 1961.

A- V Materials

TRA
595.7 "Characteristics of Insects", (transparencies), Instructo
C Products, 1965.

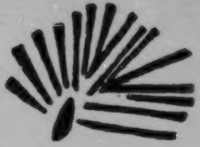
SL(kit)
595.7 "Common Butterflies and Moths", SVE, 1967.
C

TRA
595.7 "Life Cycle: the Beehive", (transparencies and overlays)
L Instructo, 1965.

SFSg
590 "Life Cycles", (sound filmstrip), National Geographic,
L 1971

KIT
638.1 "Life of the Honeybee:, (filmstrip, slides, bees in
L plastic), Chicago, SVE, 1965.

CHAg
595.7 "The Life Cycle of a Monarch Butterfly", Child's World,
L Inc., 1969.



SEEDS

OBJECTIVE

1. The children will participate in activities related to seeds.
2. Each child will be able to name a seed that we eat.
3. Each child will be able to tell where seeds originate.
4. Each child will be able to tell two ways that seeds travel.
5. The children will increase their knowledge of the uses of seeds.

LEARNING ACTIVITIES

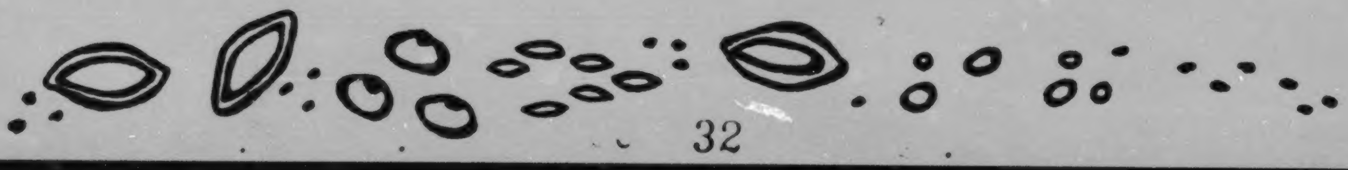
1. PLANTS PRODUCE SEEDS - Hold up a hickory nut or an acorn and ask where it came from. Discuss other seeds that get ripe in the fall. Include the idea that seeds may be used to start new plants and that seeds may also be eaten for food.

2. SEED COLLECTION - Encourage the children to bring to school seeds that are ripening. Set up a display using the seeds, after each child has shared his seeds with the class. Label each sample. If possible bring in ears of dried corn for children to shuck. Save corn for art projects and bird feeders. Save the husks for corn husk dolls. (See lesson on Recycling.)

3. TRAVELERS ALL - Read this book aloud and discuss ideas presented.

4. TAKE A DRAG WALK - Take a walk on a nature trail or through a field dragging an old towel or sweater to collect seeds. Watch for other seeds while walking. After returning to the classroom, sort the seeds and note the difference in size and shape. Have the children suggest how each might travel.

5. CUT OPEN A SQUASH - Let the children see, smell, and feel the squash seeds. Develop the idea that nature protects seeds so that they can live through cold or dry weather. Point out that man has found many ways to use the fleshy parts of fruits and vegetables. Bake the squash and save the seeds. Let children taste the squash.



6. PUMPKIN SEEDS ARE GOOD TO EAT-

   Oven method - Combine 2 cups unwashed pumpkin seeds, ½ tsp. Worchestershire sauce, 1 Tbsp. melted butter, and 1½ tsp. salt. Spread in shallow pan. Bake two hours at 250 deg.. Stir occasionally.

   Skillet method - Wash pumpkin seeds. Pat dry with towels. Heat 2 Tbsp. vegetable oil in heavy skillet over med. heat or in electric frying pan. Add the seeds. Stir slowly to prevent burning. When the seeds are toasty brown, remove from heat. Sprinkle seeds with salt and stir. Serve while still warm.

7. CEREAL TASTING PARTY - Lead a discussion of seeds that we eat such as oats, corn, rice, wheat and rye. Have examples of each in the raw state and in the state we usually see them. (Feed stores usually have some of the raw seeds.) Invite the children to bring a small amount of their favorite cereal to school for a tasting party. Send a note to parents explaining the purpose of the request and asking the parents to help their children find out what kind of seed is used to produce the cereal that he brings to share. Have each child tell the type of grain in his cereal, using a complete sentence.

8. SEED MOSIACS - Seeds of different shapes and textures can be glued to a heavy piece of paper to create pictures and designs. A kitchen magnet (a good Christmas present for mother) can be made by:
   1) Pre-cut tagboard circles 2-2½" in diameter
   2) Put 3/4" strip of magnetic tape on back of circles
   3) Use white glue to fasten corn seeds around the outside of the circle. Glue pumpkin or other seeds in the center of the design.

9. PLANT SOME SEEDS - Plant some of the seeds gathered. If you use milk carton planters, be sure to put drainage holes in the bottom. Record the growth of the plants on a chart or in diary form.

10. MILKWEED FUN - Take a walk through a field where milkweed is growing. Identify by pods and milky substance in stems. Look for monarch caterpillars and chrysalises. Bring some pods back to the school room and let them dry. When they pop open, take outside and let the wind disperse the seeds. Let the children chase and catch the seeds. Write an experience story about seed dispersal. The empty pods could be kept for making Christmas tree ornaments.

11. LOAFING AROUND - MAKING BREAD Show by an illustration how bread becomes flour. Cut out pictures of all the products we make from flour. Make bread with the class. Parents could help with this project. Write a chart story about the experience. Try to bring out the odor and taste involved. Show the film strip The Little Red Hen and then have the students dramatize the story.

12. POPCORN - Make popcorn in class. Observe the difference between the raw kernel and the popped corn. Observe the odors and textures. Excourage the children to express themselves during the experience. Tape record their reactions and play back afterwards. The children could learn this popcorn finger play.

> Ten yellow kernels of corn to pop.
> Watch them dance as they get hot!
> (Dance fingers as if playing the piano very fast.)
> Count as each bursts from its narrow pen:
> One, two, three, four, five, six, seven, eight, nine,
> ten.
> (Tap fingers, one at a time, lightly and sharply on table)
> Tommy ate one; it tasted fine.
> But then there were only nine.
> (Use names of children in group. Hold up remaining
> numbers of fingers after each couplet.)
>
> Billy ate another; it tasted great.
> But alas that left only eight.
>
> The next one was consumed by Kevin.
> And then there were only seven.
>
> Ling Choo ate his with chop sticks.
> And then there were only six.
>
> George went for him with a dive.
> Then there were left - just five.
>
> Patty ate hers and wanted more.
> But there remained just four.
>
> Jill ate hers faster than you could see.
> And then there were only three.
>
> Dina said "More" when she was through,
> But there were only two.
>
> Joanne ate one just for fun,
> And then there was only one.
>
> Jenny ate the very last one
> and that meant there were none.

(Make one with index finger and thumb, or lift palms up.)

RESOURCES - Books

582 B	Black, Irma Simonton, Busy Seeds, Holiday House Inc., New York, New York, 1970.
581 F	Foster, William K., Seeds Are Wonderful, Melmont Publishers, 1960.
581 J	Jordan, Helen J., How A Seed Grows, Thomas Y. Crowell Company, New York, 1960.
581.4 W	Webber, Irma E., Travelers All, (How plants go places), William R. Scott Inc., New York.

A-V Material

Kit 581 H	"How Seeds and Fruits Travel", "Series of Plants and Their Environments", Lakeland, Florida, Imperial Film Company, Inc., 1968.
Kitg E	"The Little Red Hen", sound filmstrip, Weston Woods, 1974.

ANIMALS IN FALL

OBJECTIVES

1. The children will state five different concepts related to animals. Concepts follow.
2. The children will develop a larger speaking vocabulary.
3. Each child will dictate a two sentence story related to animals.
4. The children will enjoy poetry related to animals.

Basic animal concepts to be developed:

1. There are many kinds of animals. They differ from plants in that they are mobile and must gather food.
2. Animals are many sizes.
3. Animals have different coats; scales, feathers, fur, shell, thin, smooth skin.
4. Animal homes are different: Permanent or temporary, simple or elaborate.
5. Animals eat different kinds of food; plants, animals, plants and animals.
6. Animals move in different ways; water, air, ground.
7. Animals have differnt communities.
8. Some animals change: frog.
9. Animals protect themselves: coloration, defenses.
10. Seasons affect animals: hibernation, migration, adaptation.

ACTIVITIES

1. INTRODUCTION TO ANIMALS - Use Instructor concept charts. See resources.

2. ANIMAL COATS - Classify familiar animals by their coats. Draw a chart similar to form below. Samples could be attached to the chart.

Fur	Feathers	Scales	Shell	Thin, smooth skin

3. A BEAR HAS A _______COAT. Have children complete sentences about animal coats.

4. LOOK FOR ANIMAL HOMES - Take a class walk around the block or school grounds to locate animal homes. After returning to the room, discuss the kinds of animals' homes found around the school. This could also be recorded on a chart. Use pictures to illustrate differences in animal homes. Have the children recall the type of animal that lives in each home.

5. ANIMAL COMMUNITIES - Examine a beehive or an ant farm. Develop the idea that some animals live in communities.

6. WHO LIVES THERE? - Read aloud to the children; follow with discussion of book by John Hawkinson.

7. FALL ANIMAL ACTIVITIES - Keep a chart of activities of animals in fall as reported daily by the children.

8. FALL ANIMAL PICTURES - Have each child draw a picture showing some animal's activity in the fall. Record their dictated stories beneath their pictures.

9. T.V. SHOW - Tape children's pictures about animal homes, coats, etc. together. Put on rollers, or pull through a box in which a hole has been cut to make a "screen."

10. SQUIRRELS AND ACORNS - Discuss acorns and squirrels. Have a real acorn for each child to examine and several pictures of squirrels. Discuss the following:
    acorns are nuts (seeds)
    squirrels like acorns for food
    an oak tree grows from an acorn
    a squirrel is a small animal
    squirrels live in trees

squirrels have bushy tails
squirrels store acorns to eat in the winter

Learn the poem "Whiskey, Friskey" by Wilma McFarland by memory. Learn a finger play about squirrels. Make an acorn out of construction paper.

11. ANIMAL GAME - The children sit in a circle. "It" names an animal and points to another child in the circle. The child pointed to must say what kind of coat the animal has before "It" counts to five.

12. INTEREST CENTER - Possibilities include pictures and examples of animal homes or coats, types of food animals eat, or animal books.

13. READ POETRY about animals to the class. Discuss or draw pictures about it. Learn an animal poem.

RESOURCES

A-V Materials

Fisher, Aileen, "Animal Houses", Sound filmstrip, Glendale, California, Bowmar Nature Series, The Ways of Animals, 1973.

Fisher, Aileen, "Animal Jackets", Sound filmstrip, Glendale, California, Bowmar Nature Series, The Ways of Animals, 1973.

KITg E "The Three Bears", Sound filmstrip, Universal Education and Visual Arts, 1969.

Other

Nasca, Donald, _Animal Charts_, Danville, New York, F.A. Owen Publishing Company, 1960.

Ant Farm, Plastic ant farm available for around $5. from Nasco in Fort Atkinson, Wisconsin.

Forest Ranger Play Set, Plastic animals and animal homes by Playskool Inc., A Milton Bradley Company, 1975.

RESOURCES - BOOKS

E Crampton, Gertrude, The Large and Growly Bear, New York, Golden Press, 1961.

590 C Croxford, Vera, All Kinds of Animals, New York, Grosset & Dunlap, 1972.

500 F Frith, Michael, Some of us Walk, Some Fly, Some Swim, New York, Beginner Books, Random House, 1971.

591 H Hawkinson, John, Who Lives There?, Chicago, Albert Whitman and Company, 1970.

811 H Hazen, Barbara Shook, Where Do Bears Sleep?, Addison-Wesley, 1970.

591.5 H Hess, Lilo, Animals That Hide, Imitate, and Bluff, New York, Chas. Schribners and Sons, 1973.

599 M May, Julian, Red Fox, Chicago, Children's Press, 1973.

599 M May, Julian, The Life Cycle of an Opossum, Chicago, Children's Press, 1973.

E McDowell, Mildred, The Squirrel and the Frog, Cincinnati, Unicorn Enterprises, 1971.

599 M Miller, Edna, Mousekin Finds a Friend, Englewood Cliffs, New Jersey, Prentice Hall Inc., 1967.

574 R Ross, Edward S., Camouflage in Nature, Chicago, Children's Press, 1968.

591.5 S Selsam, Millicent, Hidden Animals, New York, Harper Row Publishers, 1967.

574 S Selsam, Millicent, You and the World Around You, Garden City, New York, Doubleday and Co., 1963.

Trent, Robbie, Cubby's World, the Story of a Baby Bear, Nashville, Abingdon Press, 1966.

E Ylla, Two Little Bears, New York, Harper and Row, 1954.

TREES IN AUTUMN

OBJECTIVES

1. Children will observe different kinds of leaves.
2. Children will observe different veins in leaves.
3. Children will describe leaves in terms of shape, size, and color.
4. Children will identify a single characteristic and classify a group of leaves accordingly.
5. Children will learn from memory one fingerplay or poem about autumn trees.

ACTIVITIES

1. COLLECT LEAVES - Have each child bring three different kinds of leaves to school. Press them in magazines.
2. CLASSIFY LEAVES - Children work in small groups to describe leaves, to classify them according to a single likeness, and to order them according to size. Each child will identify a property of leaves (size, shape, or color) and make a set of leaves showing that property.
3. HOW TREES CHANGE IN FALL - Discuss how trees are changing in autumn and write a group chart story about the changes.
4. OUTDOORS LEAF HUNT - Take a field trip to look for leaves. Each child takes a small bag and is instructed to look for certain shapes of leaves or specific colored leaves, i.e. 2 green leaves, 3 yellow leaves, 1 triangle shaped leaf, 1 leaf that is more than one color, 1 leaf that feels fuzzy.
5. FALL ART ACTIVITIES
    a. Sponge painting - On 12 x 18 paper, vertical, use black crayon to draw the trunk of the tree. Use small sponges and fall colored paints to make the leaves on the tree.

    b. Leaf rubbings - Use newsprint to lay on top of leaf. With side of a fat crayon, rub back and forth until the outline and veins of the leaf appear.

    c. Fingerpaint using fall colors. Let dry. Outline the shape of a leaf in black paint. Cut out and put leaves on a room tree, on a bulletin board.

    d. Attach streamers of fall colored crepe paper to a hanger formed into a ring with a handle. The effect will be that of leaves blowing and rustling in the wind. Children may move to music using the ring.

RESOURCES - BOOKS

582.16 A	Allen, Gertrude E., Everyday Trees, Boston, Houghton Mifflin, 1968.
581 B	Bancroft, Henrietta, Down Come the Leaves, New York, Thomas Y. Crowell Co., 1961.
E	Carrick, McDonald, The Tree, New York, MacMillian Co. 1971.
E	Chaffie, Lillie, I Have a Tree, New York, David White, 1969.
581 B	Eitzen, Allan, Pick a Raincoat, Pick a Whistle, New York, Lathrop, Lee, and Shepherd Co, 1966.
E	Oppenheim, Joanne, Have You Seen Trees?, New York, Young Scott Books, 1967.
E	Parker, Bertha, Fall Is Here, New York, Harper and Row, 1962.
E	Reiss, John J., Colors, Englewood Cliffs, New Jersey, Bradley Press, 1969.
582 R	Rush, Hanniford, The Beginning Knowledge of Backyard Trees, New York, MacMillian Co., 1964.
E	Tresselt, Alvin, Johnny Mapleleaf, New York, Lathrop, Lee and Shepherd Co., 1948.
E	Udry, Janice, A Tree Is Nice, New York, Harper and Row, 1956.

A-V Materials

KITg E W	"A Tree Is Nice", Sound filmstrip, Weston Woods.

* Available free to teachers from the Wisconsin Department of Natural Resources, Route #3, Watenda Drive, Waunakee, WI 53597.
"Forest Trees of Wisconsin: How to Know Them"
2-2400 (74)

FOG

OBJECTIVES

1. The children will use their senses to learn more about fog.
2. The children will express their feelings about fog in a story and an art activity.

LEARNING ACTIVITIES

1. A WALK IN THE FOG - Wait for a good thick foggy day. Take class on short hike around the playground. How does fog feel? How do you feel in the fog? What is hiding? What invisible things do you hear?

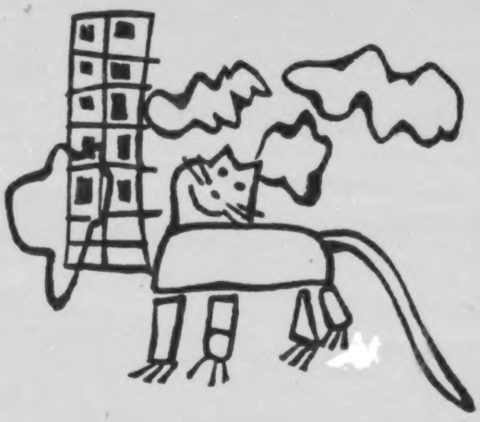
   Use the definition in Childcraft, Vol. 3, p. 61 as a basis for discussion.

2. A FOGGY PICTURE - Each child will draw a picture on 9" x 12" drawing paper, pressing hard with his crayons. Use a thin gray or white paint to brush lightly over the picture to create a foggy effect. Have each child dictate a story to an adult or student model about his picture. Those children interested may also tape record stories about their feelings or experiences with fog.

FOG

by Carl Sandburg

The fog comes
on little cat feet.
It sits looking
over harbor and city
on silent haunches
and then moves on.



RESOURCES

551.5 P	Piltz, Albert, *What is Air?*, Benefic Press, 1960.
E	Smith, Theresa, *The Fog Is Secret*, Prentice Hall, 1966.
551.5 S	Syrocki, John, *What Is Weather?*, Benefic Press, 1960.
E	Tressett, Alvin, *Hide and Seek Fog*, Lathrop, Lee, and Shepard, Co.
	- *Childcraft*, Field Enterprises Educ. Corp.

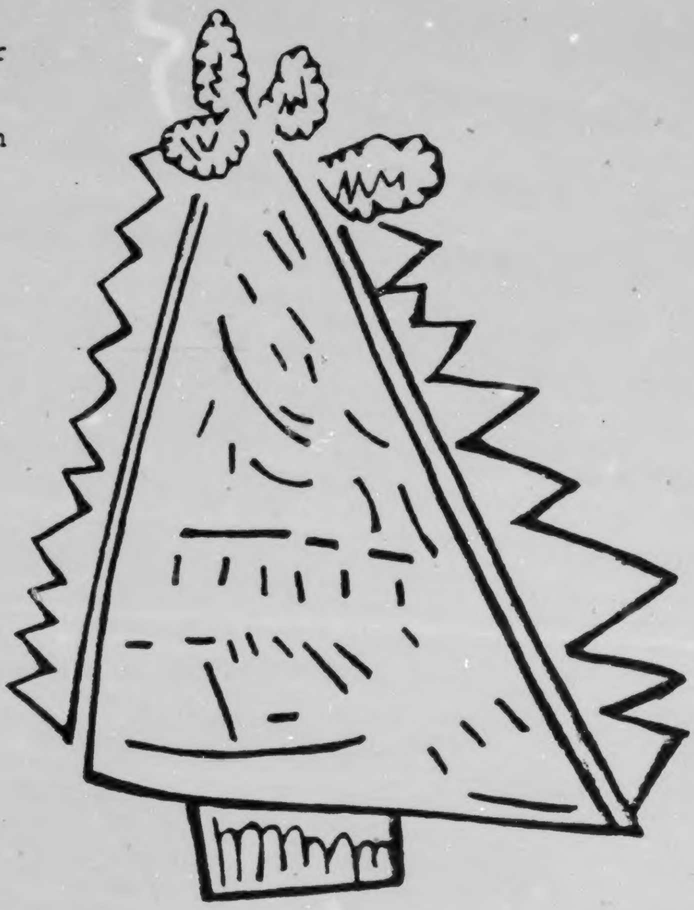
EVERGREENS

OBJECTIVES

1. The children will realize that evergreens (which we associate with Christmas trees) remain green throughout the year.
2. The children will realize that evergreen trees include trees, shrubs, and bushes.
3. The children will understand that the pine cone bears the seed for new conifer trees.
4. The children will recycle pine cones into useful items.
5. The children will see the difference in evergreens.
6. The children will learn that conifers grow to different sizes and produce different size cones.

ACTIVITIES

1. LOOK OUT THE WINDOW - Have the children look out the window for something of a certain color. When green is the color and a child mentions a green bush or pine tree, the teacher will initiate a discussion about evergreens, which remain green throughout the year.
2. PINE CONES - Gather cones and display them for the children to examine. Have them discover where the seeds are in the cones. Through the use of samples and pictures the children should see that different trees produce different sized cones.
3. CHRISTMAS TREE ORNAMENT - Tie a piece of yarn, for a hanger, on a pine cone. Use a small paint brush to coat cone with diluted glue. Shake glitter on "gluey" pine cone and hang to dry.



4. EVERGREEN BRANCHES - Collect samples of several different kinds of evergreens. Examine each sample carefully for length of needles, number of needles in cluster, or lack of needles as in the Arbor Vitae. Many Christmas tree lots will give teachers branch samples of the various trees for sale.

5. A WINTER WALK - Walk around your school grounds or neighborhood to view various conifer trees. Point out how conifers vary in size and that some people "prune" their trees and shrubs to keep them from getting too big. When back in the classroom, review evergreens observed on the Winter Walk. Demonstrate how to draw several types of evergreens. Ask each child to draw a picture containing 3 evergreens and to dictate sentences about the picture.

RESOURCES - BOOKS

582 Brough, Glenn O., Christmas Trees and How They Grow,
B McGraw Hill Book Co., 1969.

582 Darby, Gene, What Is A Tree? Chicago, Benefic Press,
D 1962.

582.16 Pine and Levine, Trees and How We Use Them, McGraw Hill
P Books Co., 1969.

582.16 Ross, George M., The Pine Tree, E.P. Dutton and Co., Inc.,
R 1966.

Wilson, F.G., Forest Trees of Wisconsin, Wisconsin Dept. of Natural Resources, 1974.

582 Zim, Herbert, Trees, Golden Press, 1956.
Z

A-V Materials

KIT
582 "Trees and the Physical Environment", sound filmstrip,
T Imperial Film Company, 1970.

RECYCLING - PROJECTS FOR CHRISTMAS

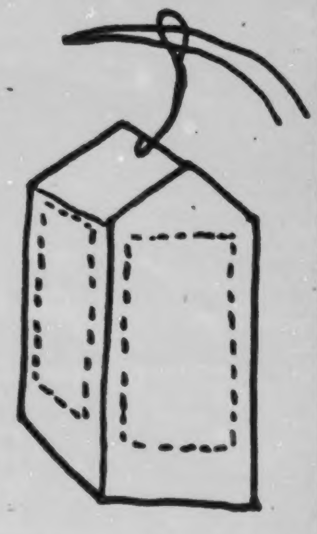
OBJECTIVES

1. The children will learn that many things can be recycled - used again.
2. The children will use waste materials in creative ways.
3. The children will use something in nature to produce a useful product.
4. Parents will be involved in helping children with recycling projects.

LEARNING ACTIVITIES

1. INTRODUCTION - Introduce the concept of recycling by showing several examples of recycled items used in the classroom. Send a note home to parents asking that children bring recycled materials for sharing. Also request that parents save materials that they might throw away such as yarn, toilet paper rolls, pie plates, pine cones, feathers, old Christmas cards, soup cans, empty spools, etc.
2. RECYCLE AN ALUMINUM POT PIE TIN - Place pie tin on front of old Christmas card. Trace around bottom. Cut out picture. Glue to bottom of tin. Put glue around inside of tin and sprinkle glitter on glue. Put glue around top edge of tin and lay appropriate length of red yarn around top. Punch hole in top with scissors. Put yarn through hole and tie on Christmas tree - a recycled ornament.
3. RECYCLE A MILK CARTON TO MAKE A BIRD FEEDER -

   Cut out holes on all four sides of a milk carton, leaving enough edge at the bottom to hold in the food for the birds. Make a hole in the top of the carton for a piece of twine. Tie bird feeder onto a tree branch and fill the bottom part of the feeder with sunflower seeds or other bird feed.



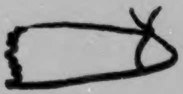
4. RECYCLE A SOUPCAN AND SOME BALER TWINE - To make an attractive pencil holder, smear glue on the outside of a clean soup can. Wind twine or yarn around and around the can, covering it from top to bottom. When it is dry, you can decorate it with small pine cones or dried flowers.

5. CORN HUSK DOLLS - You will need ten corn husks for each doll and yarn or string cut into 6" lengths.

   a. Soak husks 5 minutes or more in water.

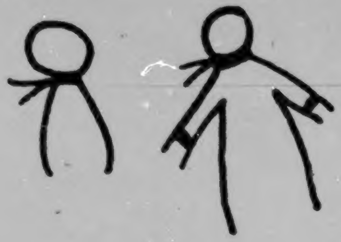
   b. Lay 10 husks on top of each other, flatten.

   c. Pull 5 husks back on each side of knot, turning husks inside out.



   d. Tie another piece of yarn 1½-2" from the end of the husk that has been turned.

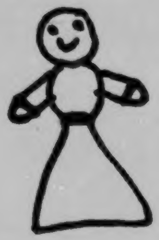
   e. Snip or pull apart 3/4" of husks from each side - to make arms.



   f. Tie side pieces at appropriate length for arms. Cut off extra husk.

   g. Tie yarn around middle for waist.

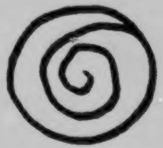
   h. Even off bottom of doll with scissors so that the doll will stand.



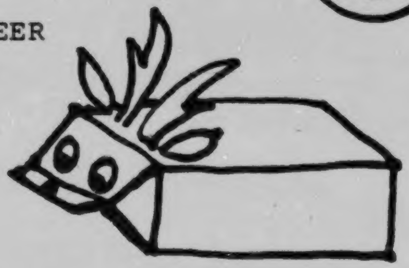
   i. For boy doll, divide husk below waist and tie for legs.

   j. When dry, add eyes and any other desired features or decorations.

6. POT PIE PAN TWIRLY - Cut out circle from the bottom of a small aluminum pot pie pan. Cut circle in a spiral, and hang on Christmas tree.



7. MILK CARTON REINDEER



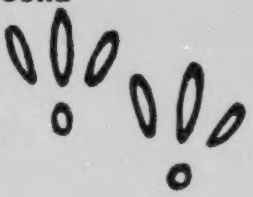
ANIMALS IN WINTER

OBJECTIVES

1. The children will be able to name two animals that remain active in winter.
2. The children will be able to define hibernation.
3. The children will enjoy poetry about animals in winter.
4. The children will learn and dramatize the story of The Three Bears.
5. The children will identify animal tracks in the snow.
6. Parents will be involved with their children in a learning experience.

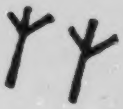
LEARNING ACTIVITIES

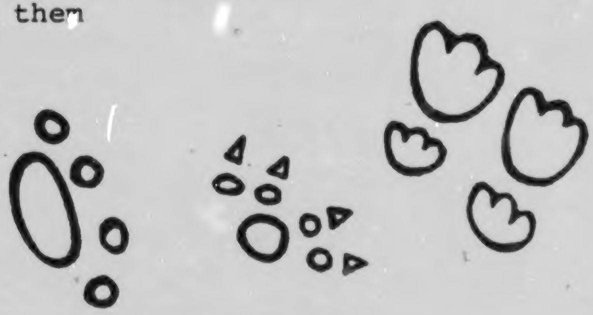
1. INTRODUCTION - Read stories related to winter and animals. One good discussion starter is Mousekin's Woodland Sleepers.
2. WRITE A CLASS STORY about how animals adapt to seasonal change.
3. TRACKS - Have each child draw around his shoes to make his own tracks. Paint the tracks.
4. Read the book Big Tracks, Little Tracks by Branley.
5. TRACK POETRY - Write a group poem about tracks. You could use the CINQUAIN FORM - a five-line poem in which the first line is a one-word title; the second line is two words describing the title; the third line is three words expressing an action connected with the title; the fourth line is four words conveying a feeling about the title; and the fifth line is one word which renames the title.



A Kindergarten Cinquain

Tracks
Big, little
Walking and running
Afraid to follow them
Footprints





6. WINTER BIRDS - Look at pictures of birds that remain in Wisconsin for the winter. Encourage response by asking about what birds eat in winter, where they live, etc. Help the children to decide that birds need help to get enough food for winter in the city. Show different ways to make bird feeders.

    a. Milk carton feeders - see recycling lesson.

    b. Stuff a pine cone with peanut butter and roll it in bird seed. Tie to tree branch with yarn or string.

    c. Fat cup - Fasten a string to a paper clip and put it in a cup cake paper. Hold the string up in the center while pouring the cup 2/3 full with bird seed. Fill up the rest of the cup with melted lard or used bacon grease. Chill to harden. Before hanging the cup in a tree, peel off the paper.

    d. Yukky bird pudding - Mix up ½ pound lard with 1 cup peanut butter. Add as much oatmeal as you can without making the pudding too dry. Collect pine cones and stick them in the pudding. Get as much pudding as you can on the pinecones. Hang from trees.

    e. Suet balls - Mix one part flour and 3 parts cooking fat. Form a ball. Wrap in piece of net onion or potato bag. Tie to tree or bush with yarn or string.

Parents could help with this activity so that several stations could be set up so that the children could make various types of bird feeders. After the activity is finished have each child dictate a story or tape record a story about feeding the birds.

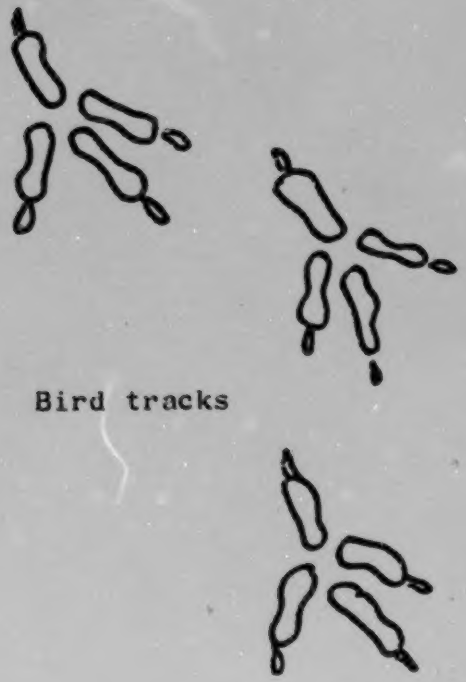
7. ENCOURAGE BIRD FEEDING AT HOME - Ask the children to make oral reports about visitors to their home bird feeders.

8. ROOM BIRD FEEDERS - If you have a parent volunteer, have a bird feeder made and installed outside one window of your school room. Keep a chart describing all the visitors and activities at the feeder. The instructions for a simple feeder follow this unit.

9. THE THREE BEARS - Show a sound-filmstrip or read the story of "The Three Bears" to the class. Have the children take turns dramatizing the story. Discuss bears in winter.

10. Show the sound/filmstrip "Now That Days Are Colder" or read the book of the same name by Aileen Fisher.

TRACKS


Bird tracks

What tracks do we see around our school?

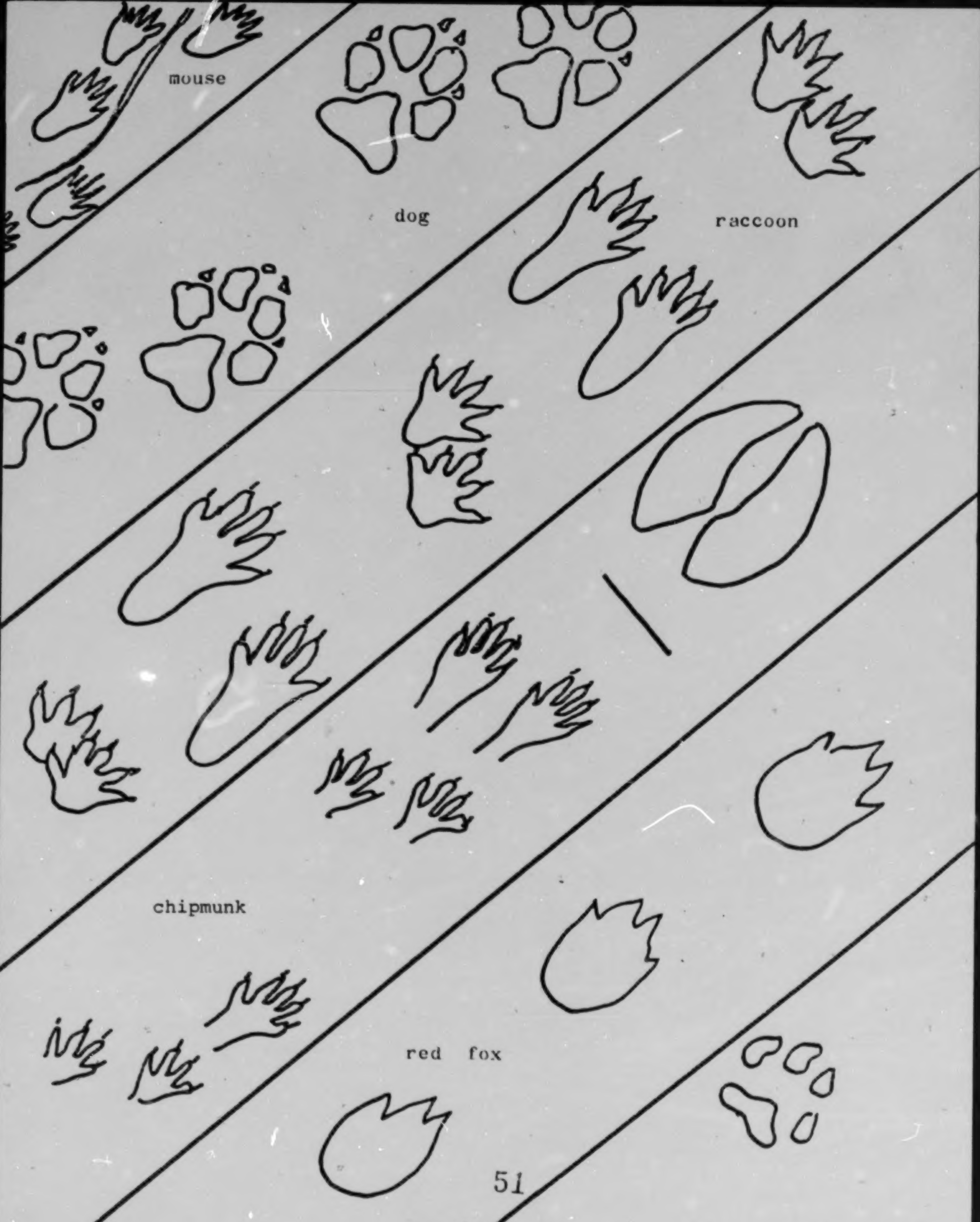
What tracks do we see around our home?

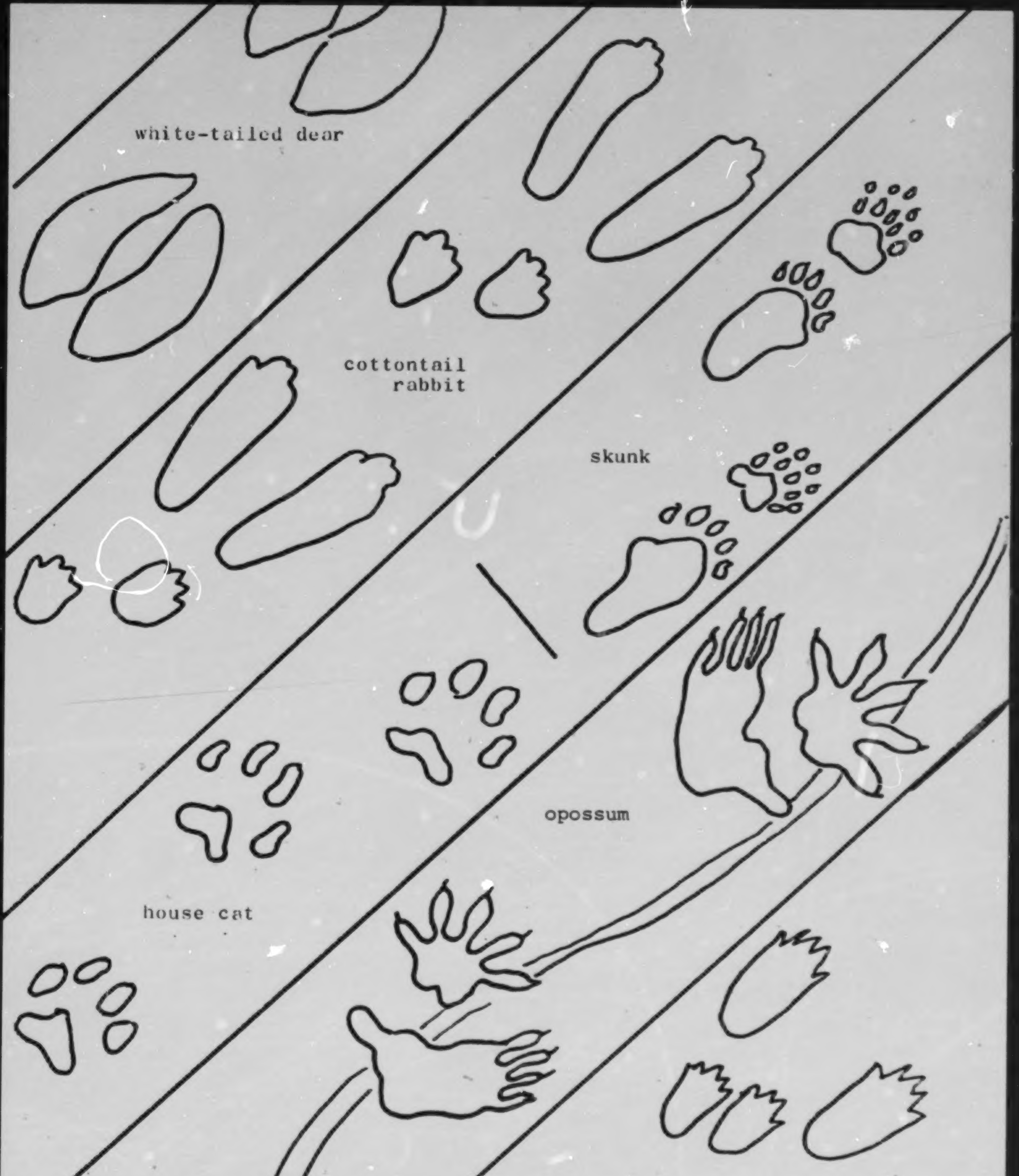
Dear Parents,

Would you please take a walk with your kindergartner to look for animal tracks in the snow? Perhaps you can help your child identify some of the animal tracks with this guide. Please have your child tell a 1-3 sentence story about your tracking experience. The story may be dictated by your child and written by you, or the child may write the story with your help. The story may be illustrated with drawings or magazine pictures. We would like your child to share his/her story with the class on ____________________.

Thank you,

Kindergarten Teachers


mouse
dog
raccoon
chipmunk
red fox


white-tailed dear
cottontail rabbit
skunk
house cat
opossum
gray squirrel

RESOURCES Fiction Books

598 C	Conklin, Gladys, If I Were A Bird, Holiday House, 1965
591 G	George, Jean, Snow Tracks, E.P. Dutton & Co., Inc., New York, 1958.
E H	Holl, Adelaide, The Runaway Giant, Lothrop, Lee & Shepard Co., Inc., 1967.
591 B	Bradley, Franklyn M., Big Tracks, Little Tracks, Thomas Cromwell Co. New York 19, N.Y.
E I	Issaacson, Yvonne, The Littlest Rabbit, T. S. Denison & Co., Inc., 1960, Minneapolis, Minn. 1968.
591.5 M	May, Julian, The Big Island, Follett Publishing Co., Chicago, New York, 1968.
P M	Meyer-Rey, Ingeborg, The Silly Goose, Carolrhoda Books, Inc., Minn., Minn., 1971.
599 M	Miller, Edna, Mousekin's Woodland Sleepers, Prentice-Hall, inc., Englewood Cliffs, N.J. 1970.
E P	Prince, Dorothy E., Speedy Gets Around, Stick-Vaughn Co., Austin, Texas, 1965.
E S	Schoenherr, John, The Barn, Little, Brown and Co., Boston Toronto, 1968.
591 S	Selsam, Millicent, How To Be A Nature Detective, Harper & Row, N.Y. 1966.
	Non-Fiction
574 B	Baker, Jeffrey J.W., Patterns of Nature, Doubleday & Co. Inc., Garden City, New York, 1967.
	Blough, Glenn O., Bird Watchers and Bird Feeders, McGraw-Hill Book Co., New York, Toronto, London, 1963.
598 F	Friskey, Margaret, The True Book of Birds We Know, Children's Press, Chicago, 1954.
599 G	Grossman, Shelly, The Struggle For Life In The Animal World, Grosset & Dunlap, New York, 1967.
598.2 H	Henry, Marguerite, Birds At Home, An M.A. Donohue Book, Hubbard Press, Northbrook, ILL, 1972.
591.5 S	Selsam, Millicent E., Hidden Animals, Harper & Row, New York, Evanston, and London, 1969.
591 W	Webster, David, Track Watching, Franklin Watts, Inc., New York, 1972.

RESOURCES A-V Materials

SFS 591 N	Fisher, Aileen, Now That Days Are Colder, Sound filmstrip, Bowmar Nature Series, The Ways of Animals, Glendale, California, 1973.
Kitg E	The Three Bears, Sound filmstrip, Universal Education and Visual Arts, 1969.

FREE TRACKING GUIDE available from:

Wisconsin Dept. of Natural Resources
Route 3, Watenda Drive, Waunakee, WI 53597

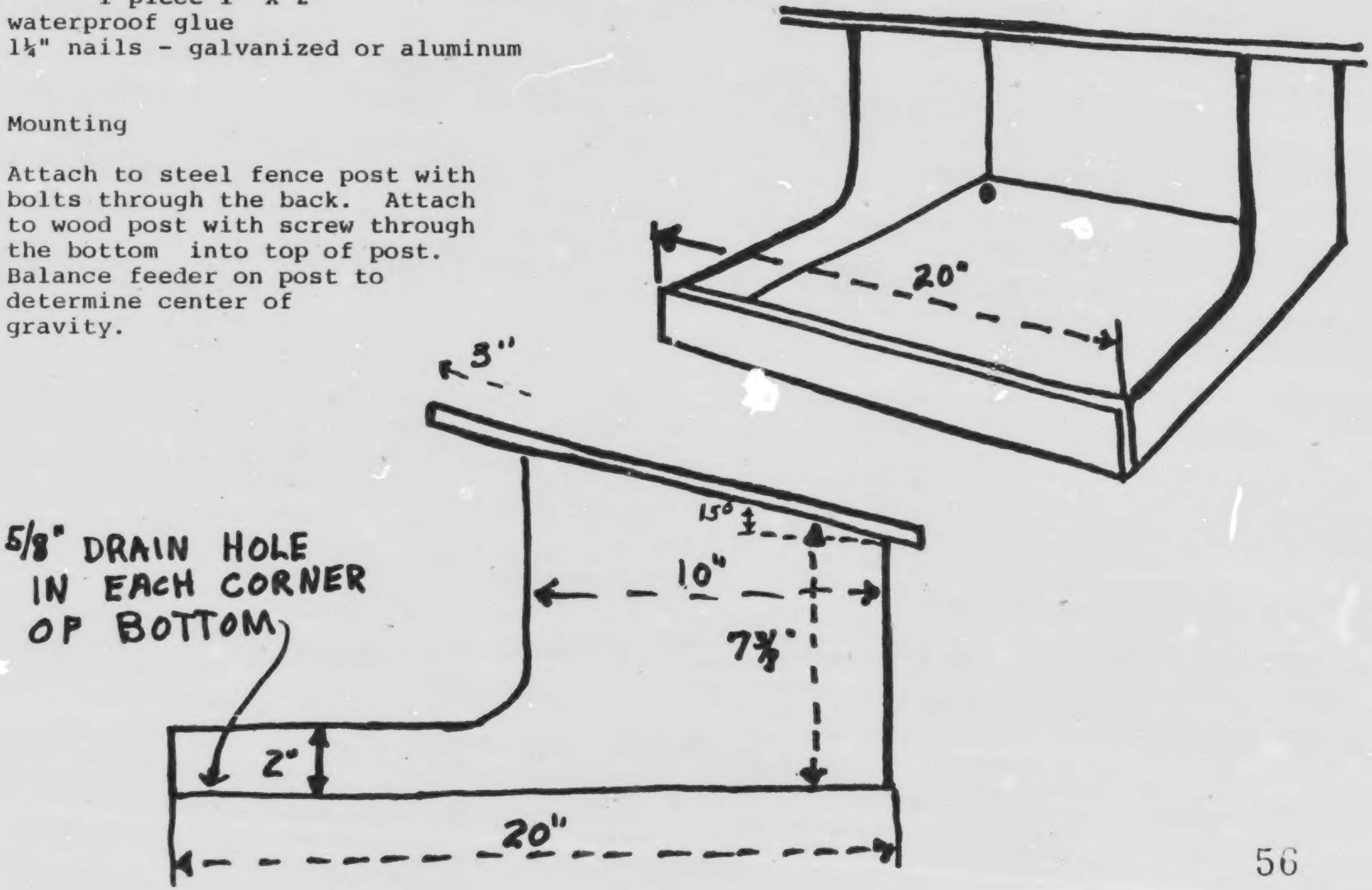
SHELTERED FEEDER

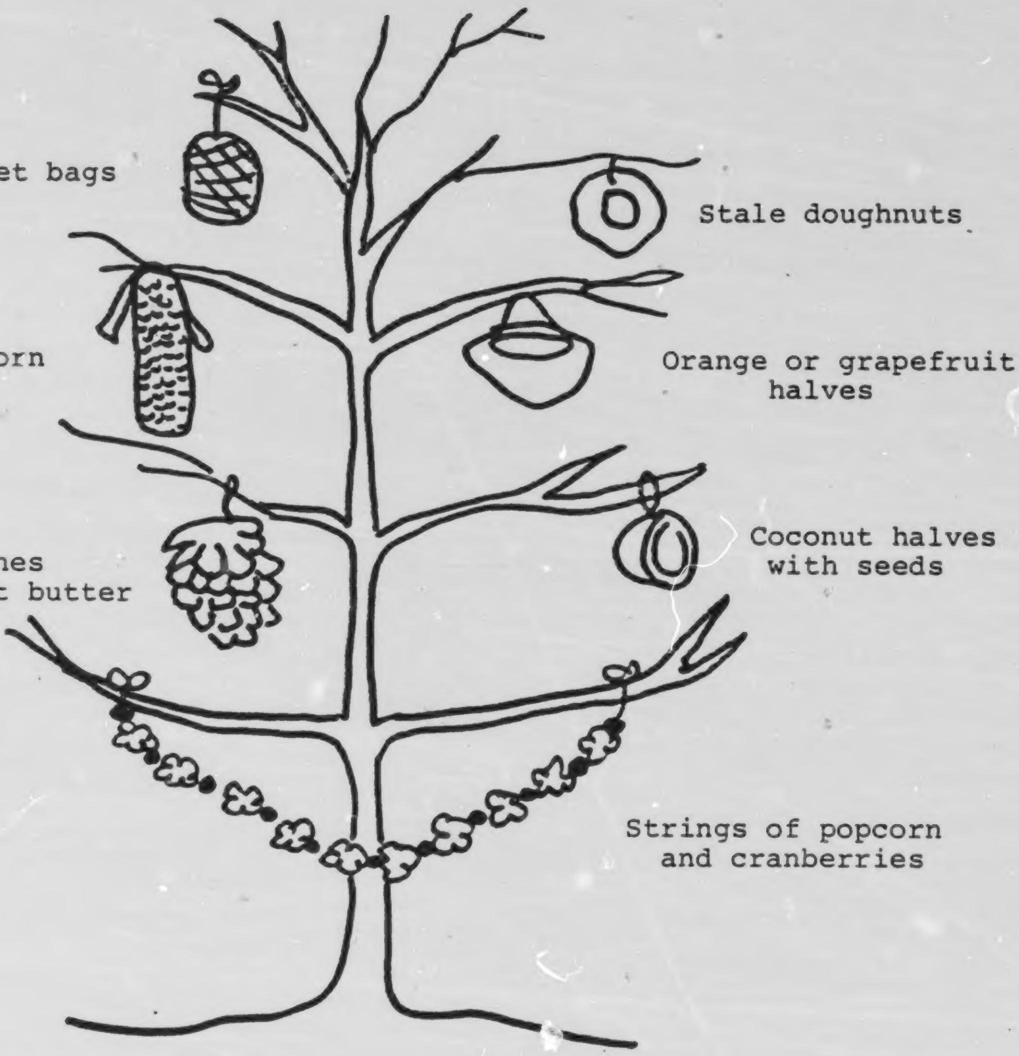
Materials

½" exterior grade plywood
    1 piece 2' x 4'
    1 piece 1' x 2'
waterproof glue
1¼" nails - galvanized or aluminum

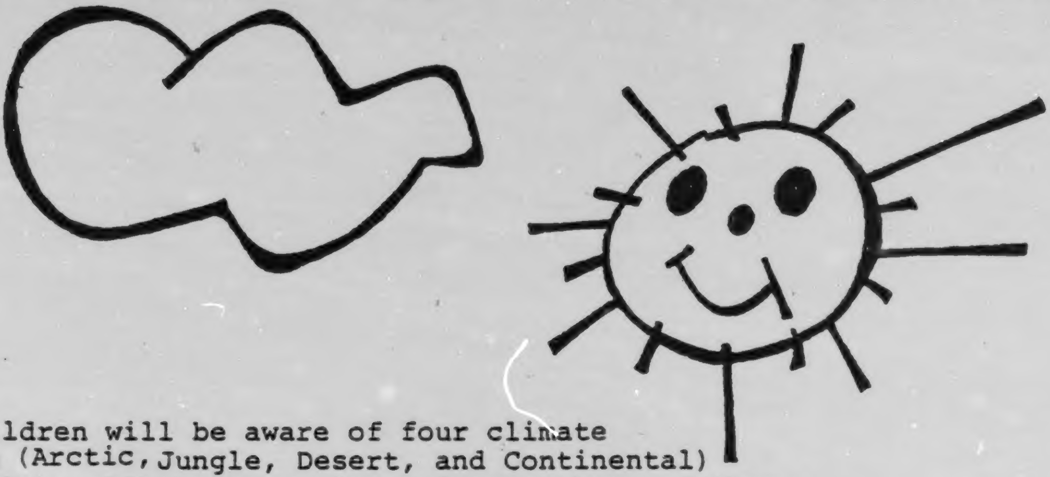
Mounting

Attach to steel fence post with bolts through the back. Attach to wood post with screw through the bottom into top of post. Balance feeder on post to determine center of gravity.


20"
3"
15°
10"
7¾"
5/8" DRAIN HOLE IN EACH CORNER OF BOTTOM
2"
20"


Suet bags
Stale doughnuts
Indian corn
Orange or grapefruit halves
Coconut halves with seeds
Pine cones with peanut butter
Strings of popcorn and cranberries

SAY MERRY CHRISTMAS TO THE BIRDS



CLIMATES

OBJECTIVES

1. The children will be aware of four climate regions (Arctic, Jungle, Desert, and Continental) and will be able to recognize and name three of them.

2. The children will be able to say one sentence about each region.

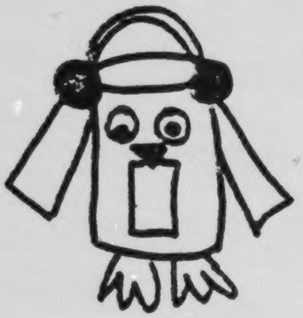
3. The children will be able to name two animals from each region.

LEARNING ACTIVITIES

1. USE A GLOBE - To begin discussion of the various regions and to discuss how location affects our climates.

2. ARCTIC ADVENTURE - Read the book Hector Penguin as an introduction to the Arctic region. Use penguin pictures from "Ranger Rick" magazines and pictures from "National Geographic" to discuss the arctic climate, the animals of the arctic, and how they adapt.

3. MAKE A PENGUIN - Construct a 3-D penguin by using a 12" x 18" piece of black construction paper to form a cylinder.
   Use 6" x 9" white paper for bib.
   Flippers: 2 - 4" x 12" black.
   Beak: yellow triangle
   Eyes: 3" x 3" white, 2" x 2" black.
   Feet: 4" x 4" orange.
   Ear muffs: 6" x 6" orange.
   Glue on bib, beak, eyes, and feet.
   Staple to top ear muff holder, ear flippers, and ear muffs.

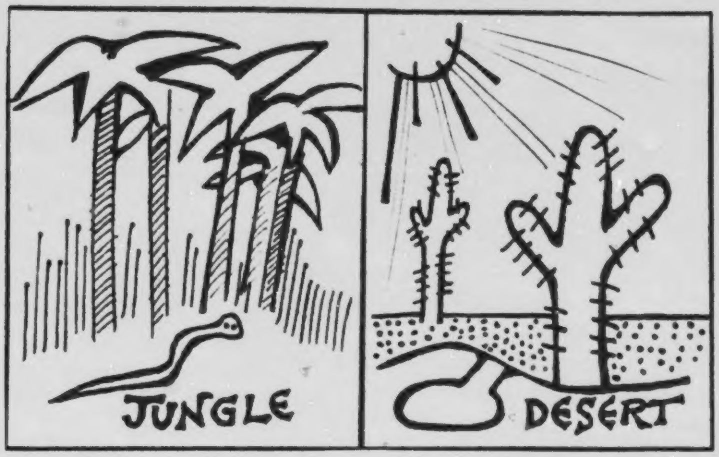


4. THE DESERT WORLD - Use books such as Wonders of The Desert World and pictures from "National Geographic" with opaque projector to show examples of the desert, its vegetation, and animals. Follow-up by making a list of words which describe the desert, or by writing a chart story about the desert.

5. A CACTUS DISH GARDEN - Mix 1/3 sand and 2/3 soil in a shallow dish that has drainage holes. Plant small cactus plants and add small rocks or animals if desired. Water about once per week.

6. LET'S GO TO THE JUNGLE - Paraphrase a book about the jungle and show pictures to give children a concept of the jungle, its vegetation, and animals. Have each child give one sentence recalling information gained about the jungle.

7. COMPARE AND CONTRAST THE DESERT AND JUNGLE - Use 12" x 18" manilla paper. Illustrate plants and animals of the jungle on one side and the plants and animals of the desert on the other side. Use watery green tempera to put a green wash over the jungle picture. Use watery glue to "paint" the sandy area of the desert. Sprinkle glued area with sand. Shake off excess sand and allow to dry thoroughly.



8. ANIMALS ADAPTATIONS - use pictures to compare animals of the different climate regions. Explain how each animal is suited for its environment. Some good animals to use are: arctic region - polar bear and penguin; jungle region - monkey and parrot; desert region - lizard, coyote, road runner. In discussing animals from our own continental region the ideas of migration, hibernation and protective coloration could be brought out.

9. BIRD FEEDING - See suggestions in unit on recycling. Encourage children to feed birds at home. Tape record children's sentences about what happened when they fed the birds at home.

10. CLIMATE REGION REVIEW - Play a game in which IT says the name of a climate region. IT points to another child and counts to five. The child pointed to must name an animal or plant related to that climate region before IT reaches the count of 5.

RESOURCES - Books

574 C	Clark, Ann Nolan, *Along Sandy Trails*, New York, Viking Press, 1969.
E	Fatio, Louise, *Hector Penguin*, New York, McGraw-Hill Book Company, 1973.
	Hoke, John, *The First Book of The Jungle*, New York, Franklin Watts, Inc., 1964.
598 L	Lauber, Patricia, *Junior Science Book of Penguins*, Garrard Publishing Company, 1963.
551.4 L	Leopold, A. Starker, *The Desert*, New York, Life Nature Library, Time-Life Inc., 1970.
551.6 M	May, Julian, *Climate*, Chicago, Follett Publishing Co., 1969.
591.5 P	Palazzo, Tony, *Let's Go To The Jungle*, Garden City, New York, Doubleday and Company, Inc. 1962.
574 P	Podendorf, Illa, *The True Book Of Jungles*, Chicago, Children's Press, 1969.
551.4 P	Posell, Elsa, *The True Book of Deserts*, Chicago, Children's Press, 1958.
	Rinard, Judith E., *Wonders Of The Desert World*, Books for Young Explorers, National Geographic Society, 1976.
574 S	Selsam, Millicent, *See Through The Jungle*, New York, Harper and Brothers, 1957.
599 W	Webb, Robert H., *Animals of The Jungle*, Racine, Wis., Whitman Publishing Co., 1964.

INDOOR GARDENING

OBJECTIVES

1. The children will be able to name two necessary parts of a garden (plants, water, soil).

2. Each child will choose an indoor garden activity, construct a garden, care for it, observe its growth and record these observations by drawing pictures and dictating stories.

3. Most of the children will be able to tell three ways that plants may be started -- cuttings, seeds, and bulbs.

4. The children will observe the construction of a terrarium and will be able to state three things learned about the terrarium.

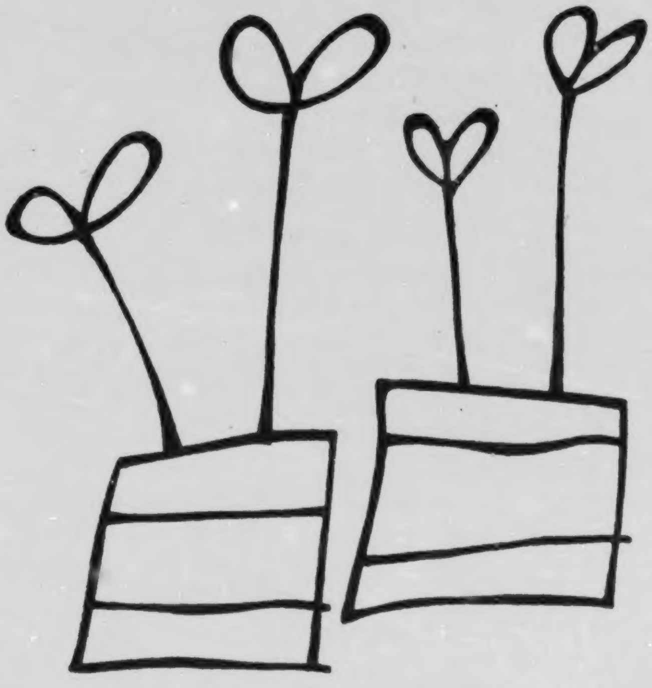
LEARNING ACTIVITIES

1. GARDENS - Discuss what makes up a garden, what the needs of a garden are (water, seed, soil, sun, fertilizer) and different kinds of gardens.

2. PLANT AND CHART - Plant four different kinds of seeds. Set up a record chart and keep track of the date planted, the date sprouted, and the amount of growth. Seeds such as grapefruit, bean, corn, and oak will provide a difference in sprouting time, type of seed, type of leaves, and growth patterns.

3. OTHER WAYS TO START PLANTS - Have a day to plant bulbs and another day to make plant cuttings or plant cuttings that are already rooted.

4. MINIGARDENS - Send home attached list of minigardens. Have each child select one minigarden to plant at school, bringing his own materials. Invite parents to help with project. Have each child draw a picture of his garden on half of an 12 x 18 paper. Draw another picture when the plants sprout. Have children dictate sentences about how they planted their gardens.



5. BUILDING A TERRARIUM - Use a large bowl or jar with a lid. Place moss in the bottom of the bowl. Add sand and some charcoal. Plant small plant, being careful not to damage the roots. Do not overcrowd. Add 2 - 3 Tbsp. of water. Put lid on. Take lid off if moisture forms on sides of jar. If and when too much water is lost, add 1 Tbsp. water. Keep out of direct sunlight. Write a chart story describing the building of the terrarium.

6. WATCHING CLARA THE COLEUS - Obtain several coleus leaves. Arrange each in a different environment: 1) stem in water, 2) whole leaf under water and 3) whole leaf and stem out of the water. Make daily informal observations about what is happening to the samples. Have children verbalize the changes. Plant the one plant that lives in potting soil.

RESOURCES

630 B — Baker, Sam Sinclair, The Indoor and Outdoor Grow It Book, New York, Random House, 1965.

635.9 C — Carlton, Milton R., Indoor Gardening Fun, Reilly and Lee, 1970.

635.9 K — Koehler, Cynthia and Alvin, Indoor and Outdoor Gardening, Grosset and Dunlap, 1969.

Mongillo, John, Goodtime Gardening for Boys and Girls, Middleton, Conn., Xerox Educational Publications, 1974.

Subarsky, Zachariah et al, Living Things in Field and Classroom, University of Minnesota, 1967.

631.4 S — Syrocki, John, What Is Soil, Chicago, Benefic Press, 1961.

I. DAIRY-BOX GARDEN

a. Plant seeds in a recycled milk, cottage cheese or yogurt container.
b. The needed materials are a dairy box, seeds (beans, flower, tomato) and potting soil.

II. FRIENDLY EGGHEAD

a. Sow seeds in an eggshell decorated with a face.
b. The needed materials are an eggshell (saved from baking or breakfast), potting soil and grass seed.

III. YOUNG SPROUTS

a. Grow sprouts in a quart jar.
b. You will need 2 Tbsp. alfalfa seeds or beans, a quart jar with a lid (or cheesecloth for lid).

IV. A MAGICAL SPONGE

a. Sow seeds in a fluffy sponge.
b. You will need mustard, watercress or birdseed, a fluffy sponge (the kind used for washing cars).

V. TOPS FOR GROWING

1. Bring a fat winter onion to new life.
   a. You will need an onion and a mug-like glass or peanut butter jar.
2. Easy way to grow vegetable tops.
   a. You will need a 2 inch section of a vegetable top, (carrot, radish, potato, or pineapple top, etc.) and a saucer.
3. Grow sweet popato vine. (need sweet potato, toothpicks, peanut butter jar).

VI. POTATO FARMING

a. Grow potatoes in a trash bag.
b. You will need an opaque plastic trash bag, a sprouted potato and potting soil (about 1 ft. deep).

VII. START A GRAPEFRUIT TREE, AVOCADO TREE OR HARDWOOD

a. You will need a grapefruit seed, avocado seed washed in warm water and rubbed with soft cloth, or tree seeds, (Grapefruit seed should be dried for 48 hours) potting soil and a container.

VIII. DO YOU HAVE AN ORIGINAL IDEA?

a. Please send needed materials and explanation.

NOTE: PLEASE WRAP GLASS AND FRAGILE ITEMS CAREFULLY AND SAFELY.

TEMPERATURE: SNOW AND ICE

OBJECTIVES

1. The children will identify different solids and liquids.

2. The children will identify the solid and liquid forms of water, rock salt, and wax.

3. The children will use thermometers to discover that the temperature varies in different locations.

4. The children will be able to tell two characteristics of a snowflake.

LEARNING ACTIVITIES

1. SOLID OR LIQUID? From an assortment of different things displayed on the table have the children identify each as either liquid or solid. A followup activity could be a game such as "I'm thinking of ....".

2. EXPERIMENTS WITH LIQUIDS AND SOLIDS - The children will observe that solids can change into liquids and vice versa.

    a. Melt an ice cube
    b. Freeze some water outside
    c. Let melted wax drip from a candle
    d. Dissolve rock salt in water

3. WINTER TEMPERATURE WALK - The children will take several small thermometers outside to take the temperature in various locations such as above the snow, below the snow, in the sun, in the shade, in a windy place, in a sheltered place. Inside temperatures can be taken near a window, near the door, near the ceiling, and on the floor.

4. TEMPERATURE CHART - Have a child read an outside thermometer each day and report the temperature to the class. The daily temperatures should be recorded on a graph chart over a period of time.

5. AN ICE CUBE GAME - Play the game "Who can make an ice cube last the longest?" Each child will have an ice cube to try to keep. Discuss and list good ways and poor ways to keep ice cubes.

6. CATCH A SNOW FLAKE - Catch snowflakes on pieces of dark cloth. Use hand lenses to examine the snowflakes carefully. Find one snowflake you like best and try to remember its special shape and characteristics. Have the children try to reproduce their snowflakes on black construction paper, using a white crayon. Draw their attention to the fact that each snowflake has six sides.

7. SNOW PAINTING - Take class outside after a fresh snow, in "good packing" weather, to make snow men and snow animals. Use tempera paint to add features, clothing, other decorations. Write a group story about the experience.

8. SNOW POETRY - Read to the children several snow poems from the anthology Time For Poetry by Arbuthnot. After a discussion about where snow builds up as it falls - on roof tops, tops of branches, tops of mail boxes, cars, etc. each child will draw a scene and paint the snow in the appropriate places.

WHITE FIELDS by James Stephens

In the wintertime we go
Walking in the fields of snow;

Where there is no grass at all;
Where the top of every wall,

Every fence and every tree
Is as white as white can be.

Pointing out the way we came,
Every one of them the same --

All across the fields there be
Prints in silver filigree;

And our mothers always know,
By our footprints in the snow,

Where it is the children go.

Read aloud to class. Ask children "What did the poem tell you about winter?" and "How did the mothers know where all the children went?"

RESOURCES

E Baker, Eugene, I Want To Be A Weatherman, Children's Press, Chicago, 1972.

Branlay, Franklyn W., Snow Is Falling, Thomas Y. Crowell and Company, New York, 1963.

E Burton, Virgiania Lee, Katy And The Big Snow, Houghton Mifflin Company, Boston, 1943.

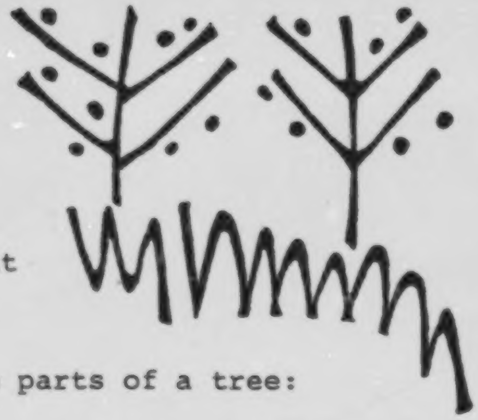
551.5 F Friskey, Margaret, The True Book Of Air Around Us, Children's Press, Chicago, 1963.

591 G George, Jean, Snow Tracks, E.P. Dutton and Company, New York, 1958.

551.5 P Podendorf, Illa, The True Book of Weather Experiments, Children's Press, Chicago, 1961.

E Schenk-de Regniers, Beatrice, The Snow Party, Pantheon Books, Random House, New York, 1959.

551.5 W Waller, Leslie, Weather, Holt, Rinehart, and Winston of Canada, Ltd. 1959.



TREES IN SPRING

OBJECTIVES

1. The children will observe buds on the branches of trees and will discover that buds burst open to become leaves and blossoms.

2. The children will be able to name three parts of a tree: trunk, leaves, and roots.

3. The children will state the purpose of a leaf as helping to provide food for the tree.

4. The children will recall the names of three hardwood trees: oak, maple and elm.

ACTIVITIES

1. INTRODUCTION - Read the True Book of Buds, to the children to develop an awareness of buds and why plants and trees have them.

2. A BUD WALK - Observe several trees and shrubs on the playground and notice the different sizes and shapes of buds. Have the children act as reporters and keep track of the number of days until the buds burst and the leaves come forth.

3. AN EARLY SPRING - You can force early blooming of such flowering shrubs as forsythia, flowering quince, pussywillow, honey suckle, and cherry branches. Cut your branches on a warmish day so the branches won't be too brittle. Fill a quart jar or milk bottle with warm water. Re-cut the bottom of each branch on a slant and take off any buds that would become water soaked. Keep the jar of branches out of direct light for a week or so, until the buds begin to swell. Sprinkle the branches every other day with warm water. When the buds swell, bring the jar into the sunlight. Do not put near a hot air register. It takes about 15-20 days for the branches to bloom. Children may write a chart story about the experience, adding sentences as changes occur in the branches.

4. BLOSSOM ART - Children should paint or color trees being sure to include the trunk, roots, branches and leaves. Tissue paper twists may be added for blossoms. Popcorn may also be used to represent the blossoms. (If the popcorn idea is used, children could learn the song "Popcorn Popping on the Apricot Tree" from Sing With Me, Songs for Children, by Diseret Book Co.

5. WHAT A PLANT NEEDS - After a teacher led discussion of what a plant needs to grow, the children will state the purpose of the three parts of a tree: the trunk - supports the tree, the roots - take food and water from the soil, the leaves use the air and the sun to make "food" for the tree. Flannel board pieces representing the trunk, roots, and leaves could be used.

6. LEAVES - Bring out leaf specimens saved from the fall study of leaves. Compare the fall samples to spring samples of oak, elm, and maple leaves. Stress the different shapes of each.

RESOURCES Books

582 D — Darby, Gene, What Is a Tree?, Chicago, Benefic Press, 1962.

581 D — Davis, Bette J., Winter Buds, New York, Lathrop, Lee and Shepherd, Co., 1973.

582.16 R — Russell, Helen Ross, The True Book of Buds, Chicago, Children's Press, 1970.

Russell, Helen Ross, A Tree of Springtime, Chicago, Children's Press, 1972

581 R — Russell, Helen Ross, The True Book of Springtime Tree Seeds, Chicago, Children's Press, 1972.

582 S — Sullivan, George, Trees, Chicago, Follett Publishing Company, 1970.

A-V Materials

"Seasons", Flannel Board Visual Aids, Paoli, PA., Instructo Corp.

"An Apple Tree in Seasons", SeeQuees Storyboards, Minneapolis, The Judy Co., 1975.

WIND, AIR, AND SKY

OBJECTIVES

1. Through a discussion, the child will become aware of the different elements in the sky--clouds, sun, moon, stars.
2. The children will be introduced to different types of clouds and will observe the weather associated with them in the days and weeks to come.
3. The child will demonstrate his understanding of the water cycle by accurately reconstructing a flannel board water cycle.
4. The child will be able to define wind as moving air.
5. The children will be able to list several ways that wind helps us and harms us.
6. The child will show an awareness of the importance of the sun by helping to compose a group chart.
7. The child will be aware of the inter-relatedness of wind, air, and sun.

LEARNING ACTIVITIES

1. CLOUDS - Use the Instructo transparency on "Cloud Formations" to stimulate a discussion of how clouds differ in appearance. Name other things that we see in the sky - sun, moon, stars. Bring out the fact that some clouds are rain clouds and some are not.
2. COTTON CLOUDS - Each child uses crayons and construction paper scraps to create an outdoor picture. He then adds cotton ball clouds to his picture to produce a 3-D effect. The cotton balls may be carefully pulled and shaped into interesting and realistic clouds.
3. CLOUD STORIES - Review the concepts about clouds and their importance by showing the filmstrip "Clouds, Rain, and Snow". Divide the children into small groups and have them dictate a group story about clouds. The story may be written on a large piece of white paper, trimmed into the shape of a cloud.

4. THE WATER CYCLE - Motivate interest in the water cycle by reading poetry about rain and asking the questions: Where does rain come from? How does it get in the clouds? Use the Instructo transparency "Water Cycle" for explanation. Review the sequence through the use of a teacher made flannel board; the set should include the sun, water, a tree, gray and white clouds, and arrows. Let children use flannel board set during free or exploring time.

5. WIND AND AIR - Use the filmstrip "Introducing Air·" Have class list the ways the wind helps us and also the ways that the wind might harm us. Some wind and air activities are:

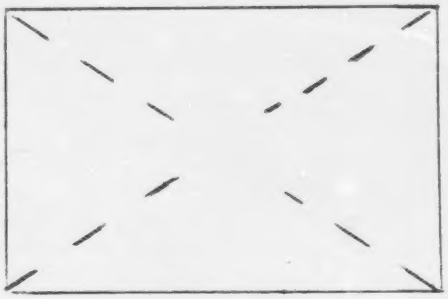
   a. Blow up a balloon.

   b. Invert a small glass and lower it into a large container of water. Tilt the glass to release air bubbles.

   c. Place a paper towel in a glass. Invert the glass and submerge it in water. Show the children the dry paper towel which the air in the glass has kept from getting wet.

   d. Tie inflated balloons to each end of a meter stick. Balance meter stick, with balloons on it, on your finger or some other fulcrum. Mark the point where it balances. Pop one of the balloons. Try to balance the meter stick again at the same point. This experiment proves that air has weight.

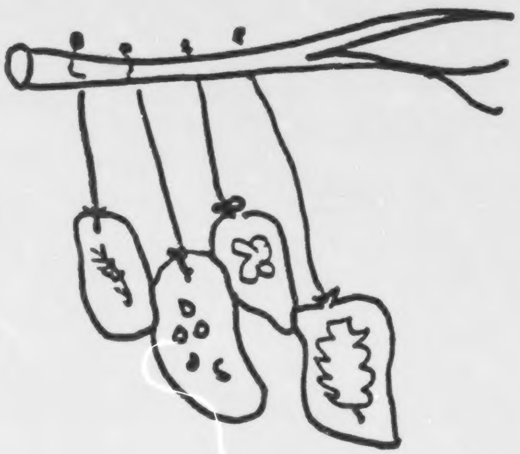
   e. MAKE A PINWHEEL - Use a 6" x 6" piece of paper and cut according to pattern, cutting on broken lines from corners. Insert pin through all four corners in center through circle. Insert pin with wheel through pencil eraser or dowel. Children make the pinwheel turn by blowing on it, developing an awarenes that wind can do work by making windmills work.



   f. SAILBOATS - Use a bar of floatable soap, a piece of cork, or styrofoam. Cut a sail out of strong paper. Tape sail to toothpick and insert into the boat. Float boat in pan of water. Have children blow on it from different directions. How much wind is needed to blow it over? What happens when the sail is removed?

   g. LET'S GO FLY A KITE - Class will go outside to feel, observe, and hear the wind, by flying kites.

h. WIND CHIMES - Use clay and have each child form four or five small clay chimes - about 3/8 inch thick and from 2-5" long. The shapes should be varied. Use natural objects such as corn, cones, shells, starfish, seeds to press designs into the clay. Use a blunt object such as a pencil to make a hole at the top of each clay piece, making the hole at least 1/2 inch from the edge. Dry pieces in open air for one week and then fire in your school kiln. String the chimes to a branch or a piece of drift wood at least one inch in diameter. Use cord and string the chimes at different lengths so that they may strike against each other when the wind blows.



i. WIND OR CLOUD POETRY - Write group cinquains about wind or clouds. The poems can be printed on large, fluffy cloud shaped pieces of paper.

To write a cinquain - a five line poem

Line one - One word to give the title
Line two - Two words to describe the title
Line three - Three words showing action of the title
Line four - Four words to show a feeling about it
Line five - One word that means the same as the title

Wind

Strong, gentle
Blowing, whistling, calling
Tossing my kite high
Breeze

6. DISCUSSING IN THE DARK - Have children enter a darkened room for a discussion of the importance of the sun as a source of light. Discuss the ways that the sun is important to people as well as to plants and animals. Record their observations on a chart story.

7. WEATHER - After viewing the filmstrip "Air, Wind, and Weather," have children list the various kinds of weather.

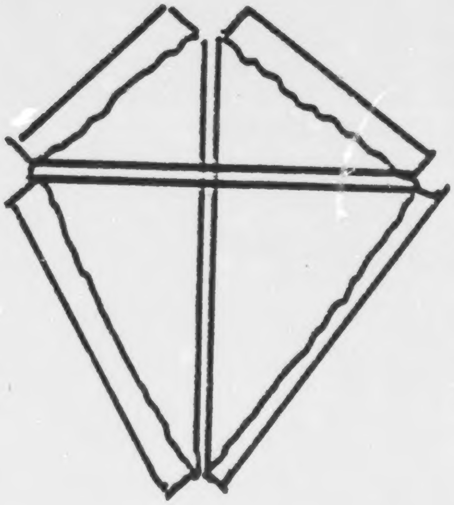
8. SKY PICTURES - On 12" x 18" manilla paper, have each child draw a spring picture, including the elements in the sky. A light blue wash may be put on for the sky. Each child should dictate a story about his picture.

KITE MAKING INSTRUCTIONS

Materials: 1 stick 36 inches long (upright stick)
1 stick 30 inches long (cross stick)
1 square yard of cloth or paper
(recycled newspaper may be used)

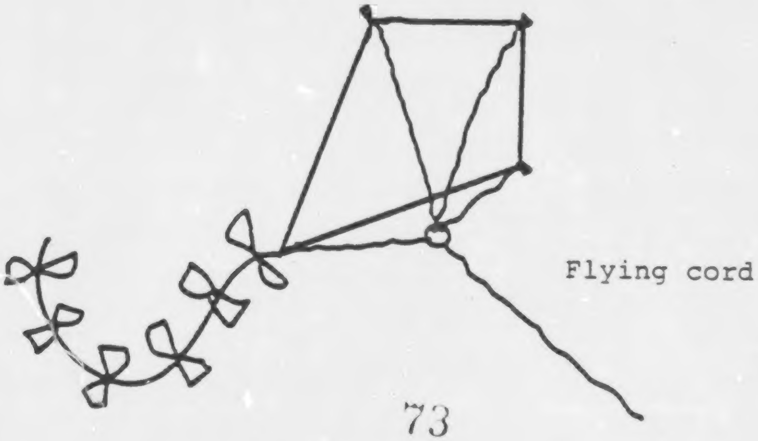
Directions: Make a crayon mark at the center of the 30 inch cross stick. Lay it at a right angle across the upright stick, 9 inches from the top. Glue and lash the sticks together. Make saw cuts crosswise in the ends of all four sticks. Run strings around from tip to tip and tie. Lay this frame on your covering.

Frame: (With string outlines) Cut covering to this shape, leaving margins of at least two inches all around.



Fold margins of covering over strings and paste down.

Turn your kite over to its flying face. Attach bridle cords, tying them to ends of the frame sticks at the four corners. The crosswide bridle cord will be about 20" long and the lengthwise one about 40" long. This kite must have a tail. The length of the tail should be decided in test flying. If the kite dances, it is trying to manage too much tail. Cut some off.



RESOURCES BOOKS

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551.5 B	Black, Irma, Busy Winds, New York, Holiday House, 1968.
551.4 C	Carona, Philip, Water, New York, Follett Publishing Company, 1966.
551.5 F	Friskey, Margaret, The True Book Of Air Around Us, Chicago, Children's Press, 1963.
551.5 P	Piltz, Albert, What Is Air?, Chicago, Benefic Press, 1960.
551.5 P	Pine, Tillie S. and Levine, Joseph, Air All Around, Whittlesey House, Div. of McGraw-Hill Book Co.

A-V Materials

FSg 551.5 A	"Air, Wind and Weather", film strip, Jamacia, New York, Eye Gate House.
FSg 551.5 C	"Clouds, Rain and Snow", filmstrip, New York, Harper and Row Publishing Co., 1956
FS 551.5 F	"Finding Out About The Clouds", filmstrip, Chicago, SVE Education Filmstrips.
FS6 551.5 W	"What Is Air?" filmstrip, The Science Shelf, Chicago, Benefic Press.
SLg(kit) 551.5 C	"Climates and Clouds", slide set, Singer Products, #SG 185.
TRA 551.5 W	"Weather-Cloud Formations", and "Weather - Watercycle", transparencies by Instructo, Philadelphia, 1965.

PLANTS IN SPRING

OBJECTIVES

1. The child will be able to state three changes which occur in spring.
2. The child will be able to name three things essential for plant growth: water, soil, sun, and air.

3. The child will draw a picture of a plant including the three basis parts - roots, stem, and leaves.
4. Each child will grow his own plant.
5. The child will understand the word transplant by transplanting a flower into a container to be taken home and given as a Mother's Day gift.
6. After working in the school flower garden, each child will illustrate his experience and dictate at least three sentences about it.

LEARNING ACTIVITIES

1. THE EARTH IS ASLEEP - Stimulate the children's interest in changes which occur in spring by pretending (in a darkened room) that the earth is asleep and about to wake up now that it is spring. Discuss what it would be like without any sunlight. How would it affect people, plants, and animals.

   Give each child a piece of drawing paper and have him illustrate three changes that the earth sees when it awakens in spring. Have the student dictate a story about his picture. Record the story on the picture. Then the child may put a blue wash on his picture to fill in the sky.

2. SIGNS OF SPRING WALK - Take a walk around your school ground or neighborhood on a warm spring day. Have the children concentrate on finding signs of spring that they can see, hear, smell, or touch. Make a list of all the different signs.
   (The longest list so far has been 37 different signs of spring!)

3. PARTS OF PLANTS - Use a flannel board aid to review the parts of plants. Have each child make a plant on a piece of 18 x 12" light blue paper. Make the flower petals from tissue paper. Use construction paper for the stem and leaves. Roots may be colored in or glued in with scraps of yarn.

4. MARIGOLDS FOR MOTHER - Plant marigold seeds early in March so that they will grow into strong plants with flowers by Mother's Day in May. Milk cartons with drainage holes in the bottom may be used as planters. Discuss the things that are necessary for the seeds to grow into healthy plants: soil water, sun, and air.

5. TULIPS - If possible, walk to a neighbors garden where tulips are growing. Point out that tulips grow from bulbs and show the children a bulb. Write a group story about tulips.

   Art project - Give children squares from which they will cut circles. They will then cut a piece of pie out of the circle reverse it and glue it in place. This flower will be glued to a stem, leaves added and mounted on a background paper.

6. DANDELIONS - Read poem "Dandelions" by Frances Frost. Don't tell the children the title of the poem and have the children guess what the subject of the poem is.

   Dandelions

   Over climbing meadows
   Where the swallow shadows float,
   These are the small gold buttons
   On earth's green windy coat.

   Take the children to a "dandelion patch" on the school grounds. Some things to do with dandelions are: make chains, necklaces, or crowns, make a wish and blow the seeds, see who likes butter by reflecting dandelion yellow on chin, pop flower heads off, use flowers to make prints on white paper.

7. A SCHOOL FLOWER GARDEN - Children, with the help of an aide or a parent, may plant seeds in a small garden plot near the school, perhaps outside the window of their room. Parents may be invited to donate perennials for the garden. After the garden is planted the children will take turns, in small groups, for watering and weeding the flower plot. Each child should illustrate the gardening experience and dictate a story to go with his/her picture.

8. RHUBARB - Walk to a neighbor's garden where rhubarb is growing (with the permission from the neighbor, of course). Have children pick several stalks of the rhubarb, identifying the stems as the part that we eat and the leaves as being poisonous. Bring the rhubarb back to the classroom. Wash and cut into small pieces and let each child taste the raw rhubarb. A contrast to the raw rhubarb is "Rhubarb Cake."

Rhubarb Cake

1½ cup brown sugar
½ cup shortening
1 egg
1 cup milk
2 cups flour
1 tsp. soda
½ tsp. salt
1 tsp. vanilla
2 cups rhubarb, cut up

Cream sugar, shortening and eggs. Sift dry ingredients. Add alternately with milk. Add rhubarb. Mix well. Pour in greased 8 x 12" pan. Top with ½ cup sugar and 1 tsp. cinnamon. Bake 350 deg. for 35-40 min.

RESOURCES

Title III	Allen, Gertrude, Everyday Wildflowers, Houghton Mifflin Co., Boston, 1965.
630B	Baker, Samm, Indoor and Outdoor Grow It Book, Random House, N.Y. 1965.
	Black, Irma Simonton, Busy Seeds, Holiday House, Inc., N.Y. 1970.
581B	Blough, Glenn, Discovering Plants, McGraw-Hill Book Co., N.Y. 1966.
635.9	Carleton, R. Milton, Indoor Gardening Fun, Reilly & Lee Books, Chicago, 1970.
581D	Darby, Gene, What Is A Plant?, Benefic Press, Chicago,1960.
	Koehler, Cynthia & Alvin, Indoor & Outdoor Gardening for Young People, Grosset & Dunlap Pub., N.Y. 1969.
582.13 L	Ladyman, Phyllis, Learning About Flowering Plants, Young Scott Books, N.Y., 1972.
	Russell, Dr. Helen Ross, The True Books of Buds, Children's Press, Chicago, 1970.
582.13 S	Selsam, Millicent, Doubleday First Guide to Wildflowers, Doubleday & Co. Inc., N.Y. 1964.
581.16	Webber, Irma, Bits That Grow Big, Wm. R. Scott Inc. N.Y. 1949.

RESOURCES - Childrens Books

582 Busch, Phyllis, Lions in The Grass, World Publishing Co.,
B N.Y. 1968.

Fish, Helen, When The Root Children Wake Up, J.B. Lippincott, N.Y.

Fox, Charles, When Spring Comes, Reilly & Lee Co., Chicago, 1964.

582 Miner, Irene, The True Book of Plants We Know, Children's
M Press, Inc. Chicago, 1953.

Selsam, Millicent, Seeds and More Seeds, Harper & Row, Publishers, N.Y., 1959.

Shapp, Martha & Charles, Let's Find Out About Spring, Franklin Watts, Inc., N.Y., 1963.

Thayer, Jane, Little Mr. Greenthumb, William Morrow & Co., New York, 1967.

581 Webber, Irma, Up Above and Down Below, Wm. R. Scott, Inc.,
W 1943.

Zion, Gene, The Plant Sitter, Harper and Row Publishers, N.Y., 1959

A-V Materials

Filmstrips

FS 581p Plants Grow and Change, (very old).

Fsg 581W What Is a Plant?

FS 582.13W Wild Flowers Everyone Should Know.

STUDYPRINTS

Gilleo & Thorn, Seasons, Teaching Pictures - David Cook Pub. Co., Elgin, Ill., 1965.

Hansen, Helen, Familiar Wild Flowers, Hayes School Pub. Co., Inc., Wilkinsburg, Pa., 1962.

Rasmussen, Wm., Spring and Summer, Milliken Pub. Co., St. Louis.

Tester, Sylvie, Plants and Seeds, Teaching Pictures, David Cook Pub. Co., Elgin, Ill., 1967.

Plants, The Instructor Publications, Dansville, N.Y.

Spring Wild Flowers, Picture Story Study Prints, SVE Inc., Chicago.

RESOURCES-Flannel Board Sets

Study of Plant Growth, Instructo Corp., Paoli, Penn.

Puzzles

Planting Tulips, SeeQuees Storyboards, The Judy Company, Minneapolis, Minn., 1975.

FREE from the Chevron Chemical Company
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San Francisco, Cal. 94105

A Child's Garden, a guide for parents and teachers.

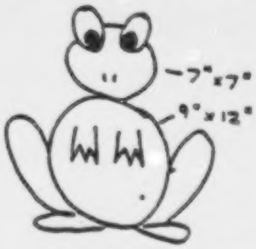
WILD ANIMALS IN SPRING

CONCEPTS

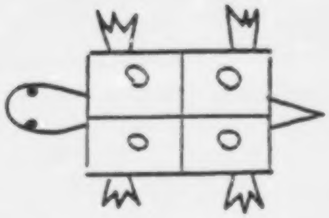
1. Wild animals change their activities in the spring.
2. Some animals change appearance as they grow up.
3. Wild animals are an important part of our environment.

LEARNING ACTIVITIES

1. FROGS - Use a Seequeese puzzle sequence chart, or a fold-out chart depicting the stages of development of a frog. Develop the idea that some babies differ a great deal from their parents in appearance and habits. Mix-up puzzle parts and have the children re-arrange them in the correct order, re-telling the story as they do so.
   Cut and assemble a frog from green construction paper. The children may use their frogs as props to act out fingerplays such as "Ten Little Frogs", or to make up their own froggy stories.



2. TURTLES - Introduce turtles with pictures and a story. One possibility is What Is a Turtle? Make egg-carton turtles Have the children paint four sections of a cardboard egg carton green. When the paint dries, have the children cut the rest of the body parts out of construction paper and glue the parts in the proper places. Make-up a story about the turtles.



3. ANIMAL BABIES - View the filmstrip "Animal Babies" or read aloud a book about animal babies. Follow-up with a question answering session.
4. THE LIFE CYCLE OF A ROBIN - Use a sequence chart to show the story of a bird's spring activities. Develop through discussion the idea that the young bird does not look like its parents and that it is very dependent on its parents for survival. Present pictures in sequence and have the children re-tell the story as the pictures appear. Also stress the importance of leaving young animals alone.

5. WILD ANIMALS IN OUR WORLD - Have a thinking time. Allow the children to express why they think we have birds and wild animals. Demonstrate how wild animals fit into the food chain. The book The Barn gives a good example of this.

6. ZOO ANIMALS - Put a toy wild animal in a box. Discuss the idea of why we would want to capture a wild animal. Bring up the idea of zoos that people use for recreation and education. Point out that all animals in the zoo have a natural home somewhere. A globe could be used to show the wide distances between the homes of some animals and the zoo.

7. ANIMAL SHAPES - Draw the children's attention to the shapes they can see in real zoo animals. Have the children paint outline pictures of zoo animals on large newsprint. Have each child tell one sentence about the animal he has painted. Record the sentence below the picture.

8. ANIMAL SOUNDS - Listen to recorded animal sounds. Have the children guess which animal makes each sound.

9. VISIT A ZOO OR GAME FARM - Tape record the children's reactions to the animals.

10. ANIMAL GAME - Give the description of an animal and have the class guess which animal is being described. Give the clues one at a time, i.e.

    I'm thinking of an animal that has four legs.

    I'm thinking of an animal that has four legs and fur.

    I'm thinking of an animal that has four legs, fur, and is colored brown.

    I'm thinking of an animal that has four legs, fur, is brown and it hops.

    I'm thinking of an animal that has four legs, fur, is brown, hops, and has long ears.

11. A CLASS ZOO - Draw a large mural in which each child adds his own animal to the zoo. Write a group story about the class zoo.

12. CLAY ANIMALS - Mold small animals out of clay. Use boxes to make cages. Allow the children to play with the animals and to make up their own stories.

RESOURCES - Books

598.1 D — Darby, Gene, *What Is a Turtle?* Chicago, Benefic Press, 1960.

597 H — Howes, Judy, *Why Frogs Are Wet*, New York, Thomas Y. Crowell, 1968.

597 M — Morris, Laverna, *Frogs As Wild Pets*, Chicago, Children's Press, 1973.

E — Schoenhorr, John, *The Barn*, Boston, Little, Brown, and Company, 1968.

590 Y — Ylla, *Animal Babies*, Harper and Row, 1959.

A-V Materials

Moncure, Jane, *The Life Cycle of A Robin*, Sequence chart and cards, Elgin, Ill., The Child's World, 1971.

Moncure, Jane, *The Life Cycle of A Frog*, ibid.

FS 591.5 T — Podendorf, Illa, *The True Book of Animal Babies*, Chicago, Educational Filmstrips, SVE.

FS 590 T — *A Trip To The Zoo*, Filmstrip, McGraw-Hill.

FARM ANIMALS IN SPRING

OBJECTIVES

1. The children will be able to recognize and describe six farm animals.

2. The children will be aware that many of the items we use in daily life come from farm animals.

3. The children will recognize that farms are becoming more specialized and that many farms today raise only one type of animal or crop.

LEARNING ACTIVITIES

1. INTRODUCTION - Use slides, study prints, or the filmstrip "On the Farm with Tom and Susan" for an introduction. Construct a bulletin board displaying animal pictures. The pictures may be commercial, cut from farm books, or child made.

2. SIX ANIMALS - Spend one day on each animal, depending on the background of children and availability of materials. Discuss two or three characteristics about each of the animals. Do special activities related to each animal. Emphasize new words that might help the children express themselves better when describing the animal or the experience related to the animal.

   A. CHICKENS - Incubate hen's eggs (instructions follow)
   Make a feather pillow
   Open and examine raw eggs

   B. SHEEP - Wash raw wool, card, and spin
   Invite parent or community person to demonstrate

   C. COWS - Read the book Let's Find Out About Milk to begin the study of milk products
   Make butter or ice cream (recipes follow)
   Display items made from cowhide

   D. HORSES - Have a horse visit the school grounds
   Learn about the care and uses of horses

   E. PIGS - Invite a swine producer or FFA member to tell about his farm
   Display some products originating from pigs

F. CATS - Invite a child to bring his/her pet cat to school and to describe its care
Discuss how cats help on a farm in eliminating rodents

3. SHARING DAY - Invite the children to bring in products from animals. Send a note home to parents asking them to help their children find examples of things produced by or from animals on the farm. Include several examples such as shoes, billfolds, hair brushes, coats, dairy products, pillows, etc.

4. GIANT FARM BOOK - Write group stories about each farm animal studied. Include children's pictures of the various animals in the book.

5. FARM VISIT - Take a field trip to a local farm. As a follow-up to the trip ask each child to draw a picture about the farm experience. Have each child dictate a story to accompany his/her drawing. The Rockford Children's Farm run by the Rock Park District in Illinois is one excellent farm to visit for classes in Southern Wisconsin or Northern Illinois.

6. FARM RELATED ART PROJECTS

   A. Construct a farm with cardboard boxes. Have small groups work on each building, painting and decorating. Make the appropriate animals for each building from clay or folded construction paper. Allow children time to play with their farm independently. Encourage them to dramatize a day on the farm.

   B. Make bag or finger puppets of farm animals. Have each animal tell about himself.

   C. Construct animals out of cylinders. Encourage the children to be creative.

   D. Construct a class mural. Ask each child to draw an animal. Through planning, decide where each animal will be placed. Perhaps several farms will be needed to accommodate the animal life.

7. FARM FOODS - RECIPES

HOMEMADE BUTTER - Kindergarten Style

You will need: Clean pint jar with tight lid. (May be quart pickle jar, large peanut butter jar or regular Kerr or Mason pint jar with lid and screw top.)

½ pint whipping cream   salt   small bowl

Procedure:

Pour cream into jar. Put lid on tightly. Have children get in a circle around a rug. The shaker sits on the rug. (This way if the bottle falls, there's a little less chance of breakage--also makes it more fun to be the shaker.) Caution children to hold the jar securely with both hands and gently shake up and down, not as hard as they can. Let first child shake 10-20 times. The next child on the circle then comes up, takes container and continues shaking 10-20 times and repeat. The teacher may keep the jar moving while child is getting settled. In about 10 minutes the cream inside of the bottle will begin to look thick. Then the butter will clump together more and more until there is a lump of butter and the liquid whey. Remove the butter from the jar to a small bowl. Add ¼ tsp. salt (or to taste). Serve on soda crackers. You may also add yellow food coloring. Enjoy!

HAND-CRANKED ICE CREAM

To make one gallon of ice cream you need:

10 C. lt. cream or ½ and ½

2 C. sugar

2 T. vanilla

¼ tsp. salt

about 10# ice

Rock salt

Pour cream into canister of freezer. Gradually add sugar, vanilla, and table salt. Place in freezer. Around the canister place 1 pt. water, a 2" layer of ice, 3 T. rock salt. Repeat ice and rock salt layers. Crank until done - about ½ hour. Keep adding ice as needed. Fresh or thawed frozen fruits could be added.

EGGS AND CHICKS

OBJECTIVES

1. Children will discover and discuss concepts related to chicks (chickens, pheasants or other birds if eggs are available) and other concepts related to the incubation of eggs.

    a. A chick is a baby bird. Chicks develop in eggs.
    b. Eggs we buy in a grocery store will not hatch. Special eggs called fertile eggs are the only eggs that will hatch.
    c. A mother hen sits on eggs to keep them warm. Eggs may be kept warm by the heat of a light.
    d. A light gives heat. Heat makes the air dry. Water can be put back into the air by keeping a dish of water in the incubator.
    e. A mother hen turns her eggs as she sits on them. In an incubator eggs must be turned carefully by hand.
    f. Growth takes time. A baby chick grows for 21 days before it is ready to come out of the egg.
    g. When baby chicks hatch, they break their shells with their beaks. Coming out of an eggshell is hard work for the chick. When he is out, he is tired. He is wet and his feathers must dry. He must be kept warm.

2. Children will keep records.

3. Children will have varied writing experiences as an outgrowth of their experiences.

LEARNING ACTIVITIES

1. Children will care for eggs in an incubator. Mark the fertile eggs X on one side and O on the other side. These marks will help assure all the eggs are turned. The eggs should be turned once the second day and three times daily thereafter until the twentieth day.

2. Children will read the thermometer periodically to see that the correct temperature is maintained.

3. Children will watch the water level in the container and add water as needed. They may have a like container outside the incubator and make comparisons. They may make inferences as to where the water is going and why.

4. They may keep the following records.

		1			2			3	
Date	Side Up	Temp.	Water	Side Up	Temp.	Water	Side Up	Temp.	Water
6-25	X	102°	ok	O	102°	ok	X	102°	ok

5. The eggs may be tested for fertility and development on the 3rd or 4th day (7th or 8th if dark shelled) and again on the 14th day. For this test hold each egg in front of the beam of light from a filmstrip projector. On the first test, a fertile egg will have a tiny dark spot with a net of little blood vessels floating inside the egg. If the embryo is dead, the blood will settle away from the center toward the edges of the yolk. A stale egg will show no dark spot or sign of development. Eggs that are not developing should be removed and may be opened for observation.

6. Children will observe the eggs at the end of the incubation period for signs of hatching. They will watch the eggs as they hatch.

7. Children will feed and care for the baby chicks.

8. Children will write group stories:

   a. Telling about their experience caring for the eggs
   b. Describing the hatching of the eggs
   c. Describing the baby chicks
   d. Telling about the care of the baby chicks

9. Children will write cinquain poetry about chicks and illustrate it.

10. Children will write concrete or motion poetry around the shape of an egg at the beginning of the experience and around the shape of a baby chick at the end of the experience.

DIRECTIONS

Construct a wooden box about a foot in dimension. The box should have five wooden sides and one glass side. Mount a light socket on the top if one side is to be glass or on one side if the top is to be glass. Side glass may be held in place by metal brackets. Attach an electric cord and plug to the socket. Drill holes (about ten total) of various sizes approximately one inch down from the top on all the sides. Fit each hole with a cork. Place a new light bulb (try 60 watt) in the socket. Check the temperature throughout the box to locate areas that will accommodate eggs at a temperature of 102°. Temperature may vary a few degrees in either direction. Directly under the bulb is a hot spot, avoid placing eggs there. Corks may be removed or replaced until an appropriate combination is found to maintain the temperature. Fertile eggs may be placed on dried grass on the floor of the box. The eggs must be turned three times daily. A dish of water must be kept in the incubator to prevent the air from drying excessively. An alternative is to spray eggs with an atomizer daily but extreme care must be taken to keep spray from touching the hot light bulb.

RESOURCES - BOOKS

636 B	Behrens, June, Look At The Farm Animals, Los Angeles, Elk Grove Press, Inc., 1971.
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636 C	Carruth, Jane, The Big Book of Farm Animals, New York, E. P. Dutton and Co. Inc., 1973.
677 C	Cavanna, Betty and Harrison, George Russell, The First Book of Wool, New York, Franklin Watts, Inc., 1966.
636.1 C	Chase, Edward L., The Big Book of Horses, New York Grosset & Dunlap, 1951.
636 D	Dodd, Madeline M, All Kinds of Cows, Chicago, Follett Publishing Co., 1965.
637 F	Floethe, Louise and Richard, The Farmer and His Cows, New York, Charles Scribner's Sons, 1957.
636 F	Foster, Johanna, Dogs Working For People, National Geographic, 1972.
598 G	Garelick, May, What's Inside?, New York, William R. Scott, Inc., 1955.
E	Ipcar, Dahlov, Brown Cow Farm, Garden City, New York, Doubleday & Co., Inc., 1959.
E	Ipcar, Dahlov, One Horse Farm, Garden City, New York, Doubleday & Co., Inc., 1950.
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636 M	Mannheim, Grette, Farm Animals, New York, Alfred A. Knopf, 1964.
636.1 R	Radlauer, Ruth S. and Ed, Horses, Glendale, California, Bowmar Publishing Corp., 1968.
636.5 S	Schloat, G. Warren, The Wonderful Egg, New York, Charles Scribner's Sons, 1952.
	Schloat, Jr., G. Warren, Milk For You, New York, Charles Scribner's Sons, 1951.
E	Tensen, Ruth M., Come to the Farm, Chicago, The Reilly & Lee Co., 1949.
637 W	Whitney, David C., Let's Find Out About Milk, New York, New York, Franklin Watts, Inc., 1967.

RESOURCES - BOOKS (cont.)

637 W Wilkinson, Jean and Ned, Come to Work With Us in a Dairy, Milwaukee, Wisconsin, Sextant Systems, Inc., 1971.

A-V- Materials

591.5 T #5 Podendorf, Illa, "The True Book of Animal Babies", filmstrip, Children's Press, Educational Filmstrips, SVE.

591 A #6 "On the Farm with Tom and Susan", filmstrip, McGraw Hill Publishing.

FREE TEACHER'S GUIDE

Farming in the classroom   Science Study Aid #8

Available from U.S. Dept. of Agriculture
Agricultural Research Service
Hyattsville, Maryland 20782

FIRST GRADE - TABLE OF CONTENTS

Awareness of Self 95

Insects 101

Weather in Fall 111

Plants in Fall 115

Trees in Fall 121

Birds in Fall 125

Evergreens and Recycling 131

Terrariums 133

Fish 137

Reptiles and Amphibians 141

Weather in Winter 148

Mammals 151

Birds in Spring 158

Weather in Spring 159

Plants in Spring 161

Pollution Problems 163

Student Model Project 167

A child's world is fresh and new and beautiful, full of wonder and excitement. It is our misfortune that for most of us that clear-eyed vision, that true instinct for what is beautiful and awe-inspiring, is dimmed and even lost before we reach adulthood. If I have the influence with the good fairy who is supposed to preside over the christening of all children, I should ask that her gift to each child in the world be a sense of wonder so indestructible that it would last throughout life, as an unfailing antidote against the boredum and disenchantments of later years, the sterile preoccupation with things that are artificial, the alienation from the sources of our strengths.

A Sense of Wonder
Rachel Carson

If a child is to keep alive his inborn sense of wonder, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in.

A Sense of Wonder
Rachel Carson

AWARENESS OF SELF

Length: Three weeks

OBJECTIVES

1. Each child will show his five senses in a picture of himself.
2. Each child will write two sentences about himself.
3. Each child will say two sentences about what he sees on the playground.
4. By listening, each child will recognize three sounds in nature.
5. By sniffing, each child will identify orally three scents from nature.
6. By feeling, each child will identify orally one natural item.

LEARNING ACTIVITIES

1. INTRODUCTION - Discuss the five senses using pp. 10-24 in Health and Growth. Read aloud to the class My Five Senses by Aliki. Use filmstrip frames 1 - 10 from Starting Points in Science.

2. A DAY FOR EACH SENSE

EYE DAY: Tour the playground and use eyes to identify natural things. When hike is over, make up "I saw" sentences.

EAR DAY: Use records or tapes for auditory discrimination. Discuss happy, scary, dangerous, or noisy sounds. Records of bird calls could be used.

NOSE DAY: Have a smelling contest. Using six items wrapped in foil with holes punched in them, the child whispers his answer to the teacher and then signs a winner sheet if correct. Suggestions: onion, orange, rose, peanut butter, soap, apple, banana.

TASTING DAY: Discuss poisons first. View containers of water and bleach. Look at sugar and salt, then taste, discuss difference. Blind folded or with eyes closed, taste carrot and celery, discuss difference. Do the same with mint and lettuce. Blind folded, guess about the taste of marshmallows, cereal, chocolate chips and so forth.

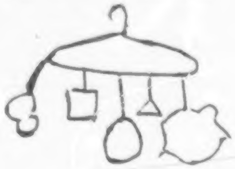
FEELING DAY: Use Peabody Lesson 29 on page 50, part 3 (Level #2) as an introduction. Then introduce the "feelie bag" containing natural items such as a pine cone, mullein, a twig, a leaf, a feather and so forth. Sign in winner sheets may be used.

3. ASSIGN A SENSE to each child. They are to bring an item from home that relates to the assigned sense. Sharing and discussing each follows.

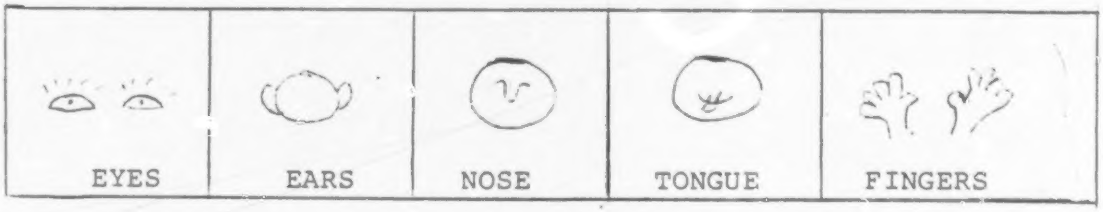
4. FIVE SENSES COLLAGES - Using magazines, each child makes a collage man labelling the five senses.

5. Use the Listening, Looking and Feeling Kit to discuss senses further.

6. A SENSE MOBILE - Each child can make a mobile using magazine pictures to represent each sense. The pictures are mounted on colored paper and tied with yarn to a coat hanger.



7. Final Test: attached to unit
Directions:
Top three boxes are riddles about senses.
The child draws the sense used.
Put key on board.



Riddle 1. Sh! Sh! What do you hear?
To find out, you need your _______. (ear)

Riddle 2. Maybe they are brown, maybe they are blue.
When you read, they help you. What are they?
_______ (eyes).

Riddle 3. One, two, three, four, five, on one hand-
One, two, three, four, five, on the other
Use them at home to help your mother.
What are they? ___ ____ (hands).

Center of paper: Color these eyes, the color of your eyes.

Bottom six boxes: Refer to key for senses. Which sense would you use?

1. The clock is ticking.
2. Water is wet.
3. Peaches are sweet.
4. Sally has perfume on.
5. Betty's shoes are brown.
6. The bacon is frying.

On page two of the test, X is yes and O is no.
Find the eye. Do you have three like this?
Find the ear. Do you have four like this?
Find the nose. Do you have one like this?
Find the fingers. Do you have ten like these?
Find the leg. Do you have two of these?
Find the tongue. Do you hear with this?
Find the head. Do you have a brain?
Find the ears. Do you see with your ears?
Find the eyes. Do you see with your eyes?

RESOURCES - BOOKS

612
A
Aliki, My Five Senses, New York, Thomas Y. Crowell, 1902.

Bendick, Jeanne, Starting Points in Science, Lexington, Mass., Ginn and Co., 1973.

Dunn, Lloyd M. and James O. Smith, Peabody Language Development Kit, Level 2, Circle Pines, Minn., American Guidance Services, Inc., 1966.

Richmond, Julius B., Elenore T. Pounds, Irma B. Fricks, Health and Growth I, Glenview, Ill., Scott, Foresman and Co., 1971.

A-V Materials

"Listening, Looking, and Feeling Kit," Hollywood, Calif., Daily Films (fs).

A SENSORY HIKE (Perceptual awareness, K-3)

Teacher background: Primary level students are not ready for much sophistication at the factual or concept level. Therefore, this activity stresses development in the use of the senses, but does not completely ignore conceptual development regarding that which is encountered.

Primary level children are naturally curious and love to explore but this exploration must be guided in order to develop their ability to discriminate. The children should wear old clothes because they will be sitting on the ground, logs, etc. Parents and other volunteer leaders might be recruited for this activity. They should be "trained" before departure to the field. Each should be assigned 6 - 8 students.

A timetable for the activity should be established so that all five field activities can be accomplished. Groups should be spaced along a trail or throughout the area so they do not interfere with each other's effort to concentrate. When the time allotted for each activity has passed, the group moves on to a new spot and completes the next activity. This process might be facilitated if the teacher uses a whistle which can be heard throughout the area to signal when movement to the next activity is to take place.

The activities can be conducted in almost any place not regularly used by people.

ACTIVITY 1 - FEELING TIME: Leaders conduct their group to a spot in the "wild" place where interference with other groups is at a minimum. The children sit and are blindfolded. The leader then passes around small parts of the "wild" place (soil, bark, moss, rotting log or stump, worms, stones, insects, grass, flowers, leaves, seeds, etc.) without naming them. Each student may say one thing about the part but should not attempt to name it. Students should be encouraged to describe how the object feels. The other students should listen carefully to their descriptions.

When the students have felt several objects they may remove their blindfolds and look at the objects. What were the best things said about each object? The group then moves on to a new spot for Activity 2.

ACTIVITY 2 - LISTENING TIME: The group sits silently for five minutes, wearing their blindfolds so they can concentrate on listening. The leader tells them to concentrate on all the sounds of the "wild" place. A tape recorder is used to capture the sounds. Blindfolds are removed and students describe the sounds using sensory words. They then try to identify the souce of the sound. The group then moves on to a new spot for Activity 3.

ACTIVITY 3 - SMELLING TIME: With blindfolds on, the students are asked to smell the things the leader finds in the "wild" place. Students describe in sensory words what they experienced. Blindfolds are removed and the objects are shown and identified. (Things which are safe to taste may also be used in this activity.)

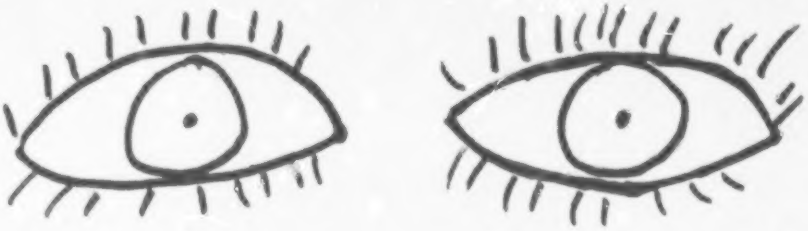
ACTIVITY 4 - SEEING TIME: Students are directed to look at objects in the "wild" place and describe them using sensory words. Colors, shapes, movements, sizes, etc., may be described. The group then moves on to a new spot for Activity 5.

ACTIVITY 5 - THINKING TIME: Students are asked to think about this "wild" place. Is it good being here? How do they feel about themselves today? Would they like to come back here? If you were an animal, would you like to be here? If you were a plant? How would you feel if somebody changed this place? What if someone was careless and littered this place? How would you feel? How would you keep this place in good shape?
These kinds of questions might be asked and time allowed for silent comtemplation about them. Then the students in the group could discuss them.

Health test

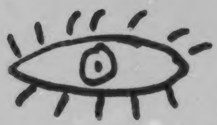
Name ______________

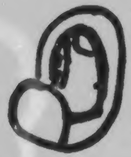
1.	2.	3.

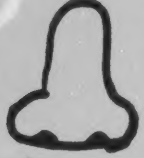


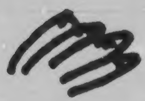
1.	2.	3.
4.	5.	6.

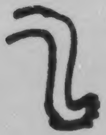
Name ______________________

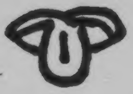
1.  ______________

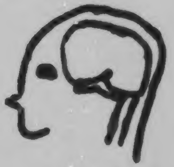
2.  ______________

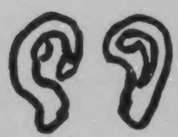
3.  ______________

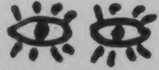
4.  ______________

5  ______________

6.  ______________

7.  ______________

8.  ______________

9.  ______________

X = yes

O = no

INSECTS A. Introduction
B. Butterflies and moths
C. Bees
D. Ants

INTRODUCTION TO INSECTS

OBJECTIVES

1. The students will read the word insect.

2. The students will write two sentences about insect characteristics.

3. The students will draw insects and label the body parts.

LEARNING ACTIVITIES

1. INTRODUCTION - Read The True Book of Insects or show SVE Insects study picture set to the class. Write a class story about the characteristics of insects.

2. ADD-A-SENTENCE STORIES - View Junior Zoologist Insects filmstrip and follow-up with small group add-a-sentence stories on tape.

3. INSECT BODY PARTS - Read beginning section of Six-legged Neighbors, through page 15, or show transparency "Characteristics of Insects" for students to gain an understanding of insect body parts. Have each child pick one insect to draw and label the body parts.

4. AN INSECT HUNTING TRIP - Take a short field trip around the school grounds looking very carefully for all kinds of insects. Take along hand lenses if available. List all insects found on blackboard upon return to the classroom.

5. WATCH WHERE YOU STEP - Listen to tape 4A Set II from "Awareness of the World Around You" kit. Use suggestions on back of picture for discussion.

6. PEABODY INSECT LESSON - See lessons 15, pp. 28-29, and 7, pp. 13-14, in Peabody Language Development Kit manual for Level #2.

7. INSECT LIFE CYCLES - MEALWORMS - Mealworms may be purchased in a pet store. Place them in a container with bran or oatmeal. Observe them grow, pupate, emerge as beetles, mate, lay eggs, and continue the cycle. Chart the changes as a class activity. Use as motivation for day-to-day writing.

8. INSECT LIFE CYCLES - FRUIT FLIES - Place a piece of banana in a small necked bottle and sprinkle the banana with dry yeast. Add a piece of paper for flies' larvae to climb on. Tape a paper funnel into the mouth of the bottle. The flies will smell the banana and crawl into the bottle, but won't be able to get out. Plug opening with cotton - do not remove the funnel or the flies will escape. Adults will lay eggs on the banana, larvae will hatch and feed on the yeast. Then they will climb on the paper towel and pupate there. The entire process takes about two weeks.

9. INSECT LEARNING CENTER - Use a Cootie game and tape instructions along with worksheet for a learning center.

RESOURCES - BOOKS

595.7A Allen, Gertrude E., Everyday Insects, Houghton Mifflin.

595.7 B Brouillette, Jeanne S., Insects, Chicago, Follett Publishing Company, 1963.

E Daly, Kathleen, Ladybug, Ladybug, New York, American Hertitage Press, 1969.

Farb, Peter, The Insects, New York, Time-Life Series, 1962.

E Jaynes, Ruth, That's What It Is!, Glendale, Calif., Bowmar, 1968.

Lane, Ferdinand C., All About the Insect World, Hale, 1964.

Lobsenz, Norman, The Insect World, New York, Random House, 1954.

Parker, Bertha, Six-legged Neighbors, Evanston, Ill., Row Peterson Company, 1961

Podendorf, Illa, The True Book of Insects, Chicago, Children's Press, 1954.

Teale, Edwin Way, Junior Book of Insects, New York, E. P. Dutton Co., 1961.

A-V Materials

"Characteristics of Insects," Instructo teaching transparency #813-6, Philadelphia, 1965.

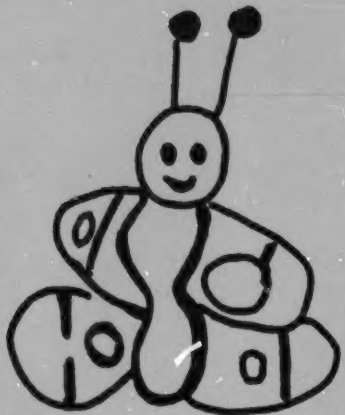
"Common Insects," Group #1, Chicago, Singer, SVE picture-study set, 1963.

"Insects," Junior Zoologist filmstrip, Niles, Ill., United Learning/Filmstrip House, 1973.

"Peabody Language Development Kit Level 2" manual and insect cards, numbers 55-75 in kit.

"Watch Where You Step," Cassette and large picture from "Awareness of the World Around You" kit, Palo Alto, Calif., Education Progress Corp., 1971.

BUTTERFLIES AND MOTHS



OBJECTIVES

1. Students will read the words butterfly and moth.
2. The students will write 2 - 3 sentence stories on one kind of butterfly or moth.
3. The students will compose individual or group poems about butterflies and moths.

LEARNING ACTIVITIES

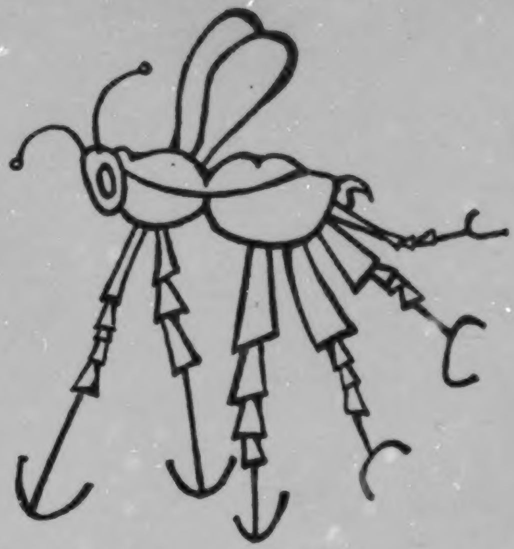
1. INTRODUCTION - Read What is a Butterfly? together. Follow-up with group writing experience on butterfly characteristics.
2. PICTURES - View "Common Butterflies and Moths" slides or SVE "Butterflies and Moths" study prints. Draw and label one specimen as a possible follow-up activity.
3. MAKE BUTTERFLY NETS - Use 24" x24" squares of netting, heavy thread or string, and coat hangers. Bend hangers into circular shapes, fold nettings over hanger circles, sew netting onto hangers with in-out stitch. Large tapestry needles work best with small children. Parent help is desirable for this project.
4. BUTTERFLY EXPEDITION - Use the completed nets for a butterfly hunt on the school grounds. Write a group story describing the experience.
5. INDIVIDUAL STORIES - Read the butterfly-moth section of Six-legged Neighbors or some other butterfly book. Have each child draw a picture and write a 2-3 sentence story about one kind of butterfly or moth.
6. LIFE CYCLE OF THE MONARCH - Use study prints or a book to show the four stages. Have each child draw the four stages and copy the names of each stage on his drawing.
7. BUTTERFLY POETRY - Read poems about butterflies and then list descriptive words about moths and butterflies on the blackboard. Write group or individual poems - possibly haiki or cinquain poems.

RESOURCES - BOOKS

595.7 B	Brouillette, Jeanne S., Butterflies, Chicago, Follett Publishing, 1961.
595.7 C	Clarke, J. F. Gates, A Golden Book of Butterflies, New York, Golden Press, 1973.
595.7 D	Darby, Gene, What Is A Butterfly?, Chicago, Benefic Press, 1958.
F	Friskey, Margaret, Johnny and the Monarch, Chicago, Children's Press.
595.7 G	Gondey, Alice, E., Butterfly Time, New York, Charles Scribners & Son, 1964.
595 M	Martin, Richard A., Butterflies and Moths, Golden Press, 1958.

A-V Materials

SLg 595.7 C	"Common Butterflies and Moths," slide set.
	"Butterflies and Moths," study prints, SVE.
CHA 595.7 L	"Life Cycle of the Monarch," Picture set.



BEES

OBJECTIVES

1. Children will read the words bee, honey, and hive.
2. Children will write individual sentences about bees.
3. Children will help to write a group story about bees.
4. Children will draw and label insect body parts on a bee.

LEARNING ACTIVITIES

1. INTRODUCTION - Use SVE prints or books. Read aload the book Beginning Knowledge Book of Bees and Wasps. Follow up by writing a group story about bees.
2. HONEY BEE KIT - Use plastic encased bee life stages and slides showing bee parts. The filmstrip included in the kit may be too hard for first graders. Have each child draw a bee and label the body parts as a follow-up.
3. INVITE BEEKEEPER to talk to the class or take a field trip to view bee hives. This could be followed by a honey tasting experience.

RESOURCES - BOOKS

595.7 F	Foster, Virgil Elwood, Close-up of a Honeybee, New York, Young Scott Books, N.D.
E	Galdone, Joanna, Honeybee's Party, Franklin Watts Publishing, N.D.
595.7 H	Hawes, Judy, Watch Honeybees With Me, New York, Thomas Y. Crowell, 1964.
595.7 H	Heavilin, Jay, The Beginning Knowledge Book of Bees and Wasps, Macmillan Co., 1964.
595.7 K	Kohn, Bernice, The Busy Honeybee, New York, Four Winds Press, 1972.
595.7 L	Lecht, Jane, Honeybees, National Geographic, 1973.

E McCall, Edith, Butternut Bill and the Bee Tree, Chicago, Benefic Press, 1965.

595.7 R Russell, Franklin, The Honeybees, New York, Alfred A. Knoph, 1967.

ANTS

OBJECTIVES

1. Children will read the words ant and anthill.
2. Children will write a 2 - 3 sentence story about ants.
3. Children will draw an ant and label the body parts.

LEARNING ACTIVITIES

1. INTRODUCTION - Watch the World of Ants filmstrip #1. Ants: Habits and Characteristics. Follow-up with group discussion and story.
2. MAKE AN EGG CARTON ANT - Use three connected sections of an egg carton. Add legs and antennae with pipe cleaners. Paint with tempera paint. Have each child write a story about his own ant.
3. VISIT AN ANTHILL - Take a mini-trip to an anthill on the school grounds. Take along magnifying lenses if available. Disturb the hill. Look for eggs, larvae and nurse ants carrying them to safety. Watch for food carrying ants. Notice the direction in which the ants move. Tape record the discussion and/or write about the observations.
4. ANT BODY PARTS - Read Ants from the Follett Beginning Science Series and then have each child draw a picture of an ant and label the body parts.
5. ANT LIFE CYCLE PUZZLE - Sample puzzle follows. Color puzzle, cut apart, and scramble the pieces. Have children reassemble individual puzzles in the proper order.

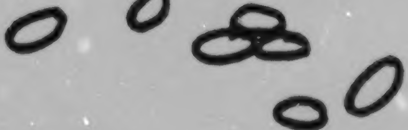
RESOURCES - BOOKS

595.7 B	Bartlett, Ruth, Insect Engineers: The Story of Ants, New York, William Morrow and Co., 1959.
E	Klein, Lenore, Tom and the Small Ant, New York, Alfred A. Knoph, 1963.
595.7 M	Myrich, Mildred, Ants Are Fun, Harper and Row, 1968.
	Ross, Edward, The Ants, Chicago, Children's Press, 1961.
595.7 S	Selsam, Millicent, Questions and Answers About Ants, New York, Four Winds Press, 1967.
	Schoenknecht, Charles A., Ants, Chicago, Follett Press, 1961.
595.7 S	Shuttlesworth, Dorothy E. The Story of Ants, Garden City, New York, Doubleday and Co., 1964.
595.7 W	Wheat, G. Collins, World of Ants, New York, Golden Press, 1959.

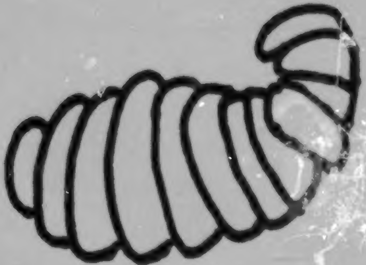
A-V Materials

SFSg 595.7	"The World of Ants", filmstrip.

eggs

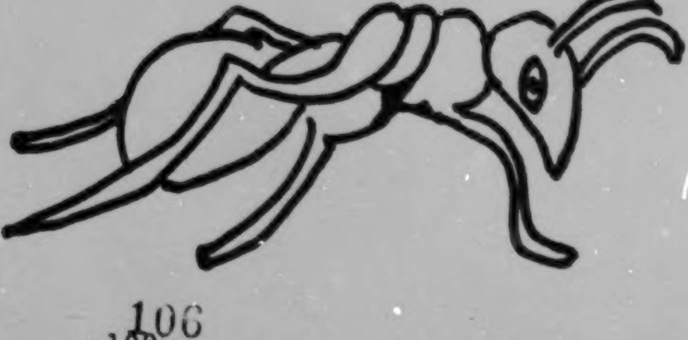


larva



cocoon

ant



MAKE A SIT-UPON FOR USE OUT-OF-DOORS

OBJECTIVES

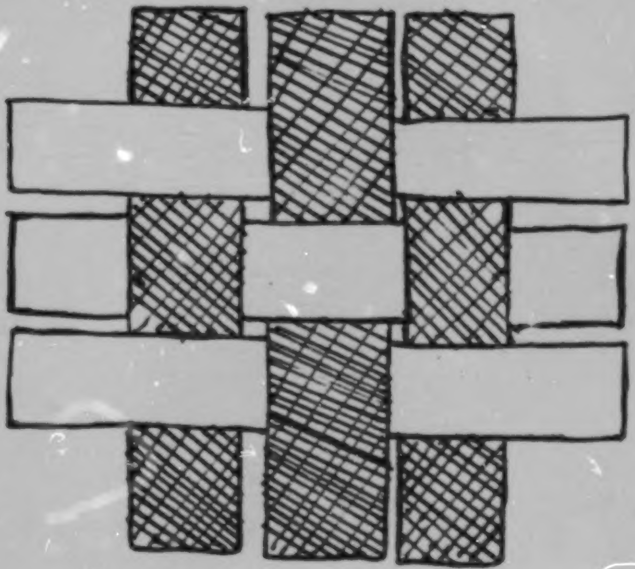
1. Children will re-cycle newspaper to make a useable product.

2. Children will make use of weaving skill.

ACTIVITY

Each child is given six full size sheets of newspaper. Fold paper in half three times to form strips of eight thicknesses.

Three strips are placed side-by-side lengthwise. One by one the remaining three strips are woven so that the equal ends form an outside edge.

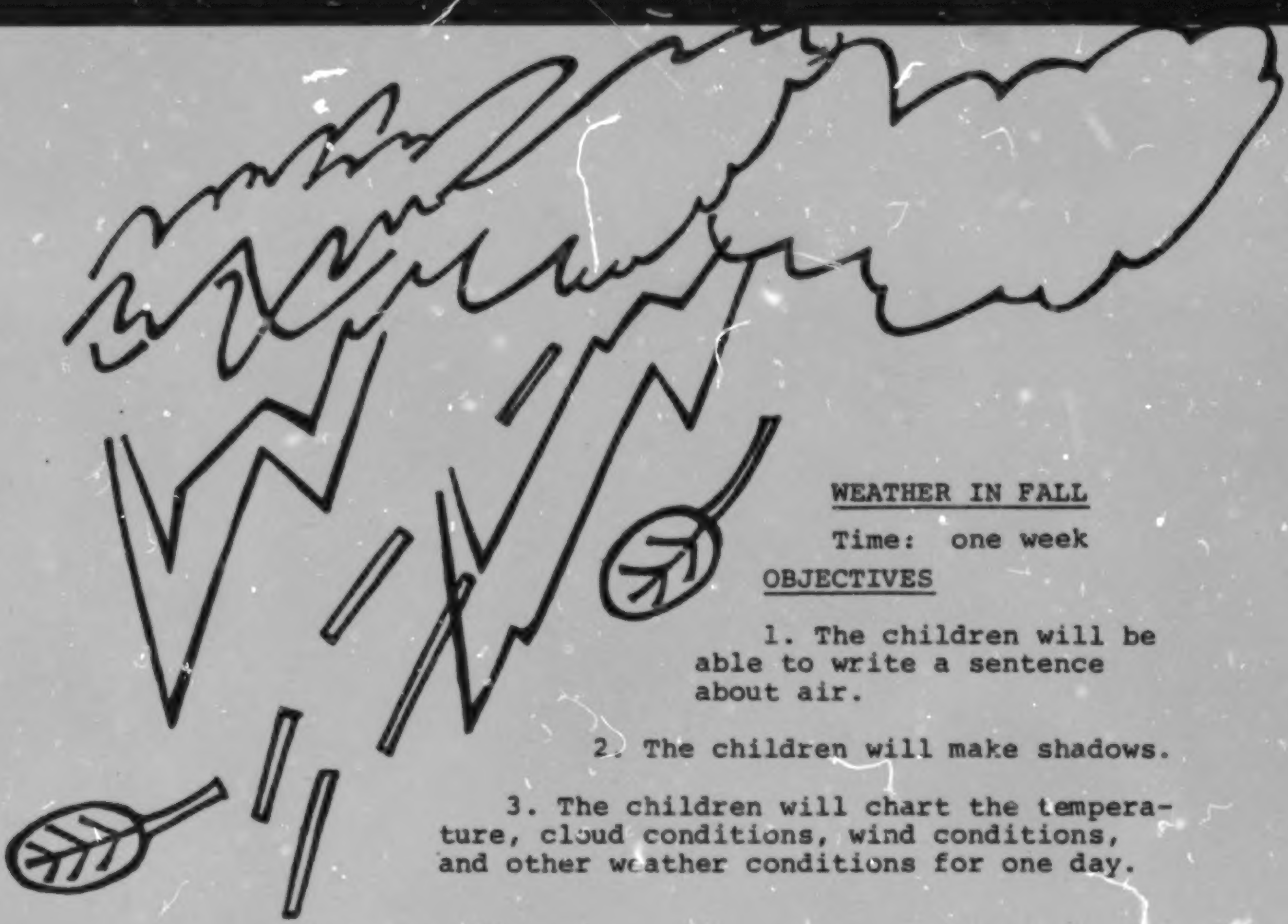


Each lower piece of the bottom edge will be folded up over the woven strip and tucked into it.

After the six bottom strips are folded up, turn the pad over and fold up and tuck in the edges that are now in the lower position.

Use crayons to decorate the pads with nature designs such as flowers, leaves, insects, etc.

The pads could be enclosed in plastic baggies to make them waterproof.



WEATHER IN FALL

Time: one week

OBJECTIVES

1. The children will be able to write a sentence about air.

2. The children will make shadows.

3. The children will chart the temperature, cloud conditions, wind conditions, and other weather conditions for one day.

LEARNING ACTIVITIES

1. INTRODUCTION - Use one of the fall filmstrips listed at the end of this unit. Follow-up with discussion and the writing of a group story about fall.

2. WHO CARES ABOUT WEATHER? Lesson 1 from Unit 3 Level II VanAllan. Put up a bulletin board of weather pictures and select classroom books about weather. Have children bring in newspaper articles about weather. Keep a list of weather words on blackboard. Have each child illustrate one kind of weather and write a short story to go with the picture. Have children interview their parents about how the weather affects them.

3. A WEATHER CHART - Chart the fall weather for at least one day. Save the chart to compare to winter and spring charts.

Precip. sky/clouds

DATE

Wind temperature

4. WHAT IS AIR? Use experiments from Science for You Book I, pp 4 - 11. Hold a bottle under water. What comes out of the bottle? Feel air move by fanning or standing by a heating vent. Blow up a balloon and then feel the air coming out. Move a small boat floating in a dishpan by blowing on it. After the experiments, have the children write about air and wind.

5. SUN AND SHADOWS - Lesson 4, Unit 3, Level II Van Allan. Make shadow pictures on the wall or floor. Read the poem "My Shadow" by Robert Louis Stevenson. Make a list of words describing a sunny day. Have children write sunny day stories using some of the descriptive words listed.

6. VOCABULARY BUILDING - Use Peabody Language Development Level II, Lesson 37, Activity 1.

RESOURCES

NOTE: The materials listed here may also be used in the mini-units on Weather in Winter and Weather in Spring.

RESOURCES

Craig, Gerald S., Science For You, Book one, T.E. pp. 22-24, Boston, Ginn, 1965.

E DeRegniers, Beatrice, The Shadow Book, New York, Harcourt, 1960.

E Freeman, Don, Rainbow of My Own, New York, Harcourt, 1966.

E Holl, Adelaide, The Rain Puddles, New York, Lothrop, 1965.

551.5 L Lehr, Paul, Weather, New York, Golden Press, 1957.

500 M MacCracken, Helen Dolman, Science: A Search for Ideas, Chicago, Follett, 1972, T.E. pp. 76-91.

535 P Podendorf, Illa, Shadows and More Shadows, Chicago, Children's Press, 1971.

E Shulevitz, Uri, Rain, Rain, Rivers, New York, Farrar, Straus and Giroux, 1969.

551.5 S Syrocki, B. John, What Is Weather?, Chicago, Benefic Press, 1960.

Van Allen, Roach and Claryce Allen, An Introduction to Language Experience Program, Level II, Chicago, Encyclopedia Britannica Press, 1970.

E Wavle, Soule, Rain and Shine, Boston, Heath, 1955.

Environmental Education Curriculum, pp. C1-C16, Topeka Public and Parochial Schools, Topeka, Kansas, 1974.

Everything You've Always Wanted to Know about Weather but Were Afraid to Ask, Environmental Ecological Education Project, Chesterfield, Missouri, 1972.

Light and Shadows, Elementary Science Study, Watertown, Massachusetts, 1965.

Peabody Language Development Kit, Level II, American Guidance Service, Inc., Circle Pines, Minn., 1966.

Science - A Process Approach, AAAS, Part B Lesson g - Observing 10, Observing Weather, Xerox Corp, 1967.

Snow and Ice, National Wildlife Federation, Washington, D.C., 1971.

World of Language, Book one, Follett, Chicago, 1970.

PLANTS IN FALL

OBJECTIVES

1. Children will be able to name and label the five parts of a plant - roots, stems, leaves, flowers, and seeds.
2. The children will discuss ways that plants differ.
3. Children will observe the changes of plants in fall.
4. Children will gather, discuss, and label seeds.
5. Children will discuss the ways in which seeds travel.
6. Children will develop an awareness of the harvest season and the kinds of work involved in harvesting.

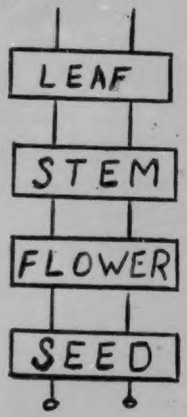
LEARNING ACTIVITIES

1. WHAT IS A PLANT? - Use pictures, plants in the classroom, and plants seen outside the room window to begin discussion of plants.
2. BULLETIN BOARD - Show the five parts of plants. Name and label all parts.
3. SCHOOLGROUND FIELDTRIP - While walking around school yard, observe the changes taking place in plants. Collect seeds, label and save for winter fun. Make seed collages. Display and label nuts, cones, and leaves.
4. WHAT DO WE GET FROM PLANTS? List on a chart the things that man gets from plants.
5. CITY PARK FIELDTRIP - Invite parents to accompany students on trip. It is preferable to have one parent for each group of 4 or 5 children. Fieldtrip activities follow at the end of this unit. Have children write individual stories about the field trip on the following day.
6. PLANT EXPERIMENTS - See the True Book of Plant Experiments.
7. GARDEN VEGETABLES - Make a display of vegetables from the school garden or with samples from family gardens. Label all vegetables.

8. DRIED WEEDS - Collect interesting dried weeds for a fall room bouquet. Dried materials may also be used for a shadow box art project. Use quart size produce boxes (sometimes available free from markets) and glue materials such as leaves, seeds, cones, etc. in box which will stand up on one of its sides.

9. THE FIRST FROST - Discuss some of the changes which occurred during the night of the first frost. Notice plants on the schoolgrounds and how they have changed. Have children write a one or two sentence story about "The day after the first frost in autumn."

10. PLANT VOCABULARY - Keep a list of words that describe plants as well as parts of plants and other words that children might use in writing about plants. Words may be listed on the chalk board or hung from the ceiling of the room on a word ladder.



11. PUMPKINS AND SEEDS - Discuss pumpkins and seeds as related to Halloween. Prepare and serve pumpkin seeds.

RESOURCES - BOOKS

581 D	Darby, Gene, What Is A Plant?, Chicago, Benefic Press, 1960.
525 D	Darby, Gene, What Is A Season?, Chicago, Benefic Press, 1958.
582 M	Miner, Opel, The True Book of Plants We Know, Chicago, Children's Press, 1953.
525 P	Podendorf, Illa, The True Book of Seasons, Chicago, Children's Press, 1955.
581 P	Podendorf, Illa, The True Book of Plant Experiments, Chicago, Children's Press.
581.4 W	Webber, Irma, Travelers All (How Plants Go Places), Scott Publishing Co., 1944.
580 Z	Zim, G. S., What's Inside of Plants?, Morrow Publishing, 1952.

A-V Materials - Films, filmstrips, and kits

Kit g E R #2	"Jack and the Beanstalk," filmstrip, cassette and teacher's guide.
920 A	"Johnny Appleseed"
	"Peabody Kit" - Speech development Lesson 21, #3, Sentence building Lesson 151, #3, Listening Time Lesson 160.
581 P #7	"Plants Grow and Change."

Transparencies

"Plants and Animals," Primary, Millikin Company.

Study Prints

"Plants and Seeds," David C. Cook Publishing Co.

"Seasons," David C. Cook Publishing Co., Picking Apples, growing vegetables, fall leaves and squirrels, harvesting.

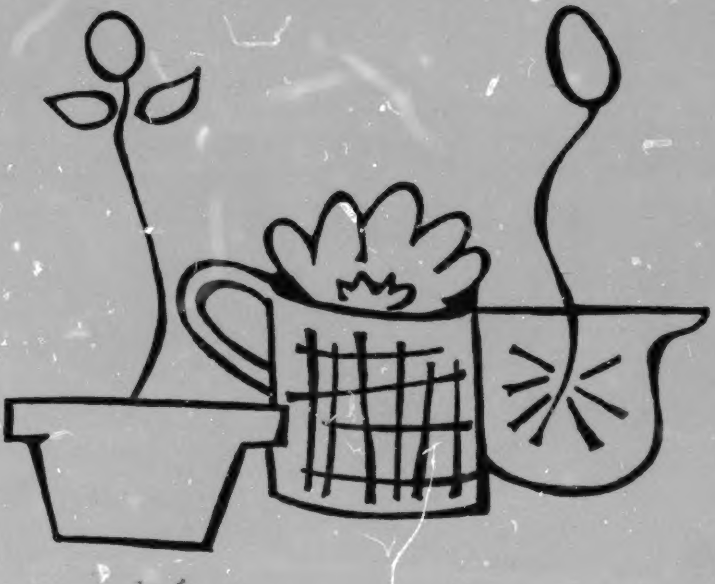
Records/Songs

"Five Little Pumpkins," Exploring Music, Book I, record 4.

"Grinding Corn," Exploring Music, Book I, record 5.

"Pawpaw Patch," Making Music Your Own, Record 1.

"Potatoes," ibid.



GROW AN AVOCADO TREE

OBJECTIVES

1. Children will identify an avocado seed.
2. Children will write the word "avocado."
3. Children will measure the avocado growth at intervals.

LEARNING ACTIVITIES

1. Remove outer covering from avocado seed and insert toothpicks in sides to hold seed on rim of a glass or jar filled with water. Let stand for several weeks until the avocado has split open and begun to root in the water. Plant in rich soil with top portion of seed remaining above the ground. Keep plant away from direct sunlight. Keep soil moist, but not wet. To develop a many branched plant, cut the stem back to a 3 inch stump after the plant has grown 8 or 9 inches.
2. Individual or chart stories about the avocado could be a follow-up activity.
3. Children should measure the growing plant at one week or one month intervals and chart its growth.

MATERIALS

1. Avocado
2. Glass or jar with water
3. Toothpicks
4. Soil and pot

RESOURCES

"Lawns and Gardens, " Janesville Gazette, April 23, 1974.

FALL NATURE HIKE TO A PUBLIC PARK

Each parent should be assigned 4 or 5 children for the afternoon. Parents should receive instructions at least one day before the fieldtrip so that they may become familiar with the activities and have an opportunity to ask any questions that they might have.

12:15 p.m. Report to your child's home room. Please bring a bag for collecting samples along the way. For each group the teacher will furnish:
1) paper booklets and crayons for rubbings
2) a story book, poems, and fingerplays
3) apples
4) paper for writing group stories

Park activities - These activities may be done in any order, with the exception of free play. Each activity should last around fifteen minutes.

1. Texture rubbings - each child will use a booklet of newsprint and a crayon to make texture rubbings of such things as bark, leaves, stone, etc.

2. Story time - The children may eat their apples while the leader reads a story and some poetry. Finger plays (included on your poetry sheet) may also be used at this time.

3. The senses - Discuss things that the children have seen, heard, smelled, or touched during the hike. You might use some of the items in your collection bag to look at, smell, and touch.

4. Tree time - Sit at the foot of a large tree. Discuss the parts of the tree, the seasonal changes of the tree, the value or care of trees.

5. Group experience story - Have your group of children dictate a story about the nature hike and the things they have seen and done. The Leader will write the story.

6. Play time - In addition to letting the children play on the park equipment, play the game of "Shadow Tag" with your group. The person who is "it" tags another person by stepping on that person's shadow.

7. Living and non-living - Have your group list as many living and non-living objects in the park as they can.

2:15 p.m. Group sing - Meet at the shuffle board courts.

2:35 p.m. Leave the park.

3:00 p.m. Dismissal.

Grasshopper green
Is a funny clown.
He swings on the grass
With his head hanging down.

A jump and he's off
Flying high through the air,
He has not a worry,
He has not a care.

The sun and the sky,
The grass and the trees,
Are all that he needs;
He can live at his ease.

So it's here and it's there
With a hop he's away
He has nothing to do
But play all the day!
--Hazel Knox

I LIKE FALL

I like Fall:
it always smells smoky,
chimneys wake early,
the sun is poky.

Folks go past
in a hustle and bustle,
and when I scuff
in the leaves,
they rustle

I like fall:
all the hills are hazy,
and after a frost
the puddles look glazy;

And nuts rattle down
Where nobody's living,
and pretty soon...
it will be THANSGIVING.
--Aileen Fisher

FINGER PLAYS

HERE IS MISTER FROGGIE

Here is Mister Froggie, hop, hop, hop!
(Extend middle and index fingers and make hopping motions)
Now he jumps into the pond, KERPLOP!
(Motion of diving with both hands.) -- L.B.S.

LITTLE BROWN SEEDS

Little brown seeds so small and round (pretend to hold seeds in hand.)
Are sleeping quietly under the ground (Place palms beside face.)
Down come the raindrops, sprinkle, sprinkle, sprinkle.
(Raise arms and lower them slowly, moving fingers rapidly.)
Out comes the rainbow, twinkle, twinkle, twinkle. (Draw a big arc in the air.)
Little brown seeds way down below.
Up through the earth they grow, grow, grow. (Children bend to floor and rise slowly.)
Little green leaves come one by one.
They hold up their heads and look at the sun. (Children look up and extend arms.) ---L.B.S.

BUSY SQUIRREL

The little; gray squirrel makes a scampering sound,
(Wiggle fingers.)
As he gathers the nuts which fall to the ground.
(Hold fingers high and then let them move down slowly.)
He buries the nuts in a dark, secret place,
(One hand over other.)
And covers them over with never a trace.
The little, gray squirrel always seems to know
(Hands outstretched.)
That the robins have gone and it's time for snow.
(Hold fingers high and then lower them slowly.)

Read this rhyme to motivate the spirit of autumn. Ask: Why does the busy squirrel hide nuts? Why do birds fly south?

TREES IN FALL

OBJECTIVES

1. Children will name and label the three parts of a tree.
2. Children will develop an awareness of the ways trees are important to people and animals.
3. Children will be able to identify four common trees.

LEARNING ACTIVITIES

1. A TREE GROWS IN ROOM 222 - Make a room tree on the bulletin board. Include all parts of the tree and label the parts. The children could make bright fall leaves for the room tree.
2. A LEAF CHART - Collect leaves from the various trees on the playground or in the neighborhood, or have each child bring a few leaves from his own yard. Sort the leaves and use a tree or leaf guide to identify each species. Leaves may be pressed in wax paper or enclosed in clear contact paper. Put one sample of each type found on a leaf chart. Label each sample.
3. ADOPT A TREE - Take a walk around the school grounds to select a tree to be adopted by the class. Perhaps you might want to select a tree which can be seen from your classroom window. Discuss the needs of your tree. Make a classroom mural to show the seasonal changes of your tree. Decorate the tree at least once each season - i.e. Halloween, Christmas, Valentines Day, etc. Have each child sketch the tree and write a story about it. Write a class story about the tree and add to the story each month as changes take place in the tree. You might want to give your tree a name such as "Willie the White Birch" or "Susie Spruce."
4. TREE WRITING IDEAS
   a. Collect pictures of fall. Have each child write one or two sentences about a picture.

   b. Pretend you are a tree. Write one or two sentences about it. How would you look? How would you feel?

   c. Story beginnings: "I was a little pine seed and...." "I climbed high in my neighbors tree and then I couldn't get down."

5. TREE POETRY - Read aloud poems about trees. Have class write tree poem.

A poem to develop sound discrimination:

Leaves swirl
Twist, twirl
Dive, swoop
In a group
Or one by one.

Drift, glide
Sift, slide
Fall, cling
Sway, swing
While we run
In among them
Having fun.

6. A LEAF BOX - Place leaves of common trees in a box. Have each child pick out a leaf and identify it.

7. GAMES - Password: The children sit at one side of the room. The teacher is the bridgekeeper. A child may cross over if he can name a: tree, number, food, animal, building, fruit, vegetable, month.

Scrambled sentences: Teacher gives a scrambled sentence such as "Tall the grew tree." The children must decide what should be done so that the sentence makes sense.

RESOURCES - BOOKS

582.16 A	Allen, Gertrude, Everyday Trees, Boston, Houghton Mifflin Co., 1968.
582 C	Cooper, Elizabeth, A Tree is Something Wonderful, San Carlos CA, Golden Gate Books, 1968.
582 C	Cormack, M.B. The First Book of Trees, New York, Franklin Watts, 1951.
581 L	Lerner, Sharon, I Found a Leaf, Minneapolis, Lerner Publications, 1964.
582.16 P	Pine, Tillie, Trees and How We Use Them, McGraw Hill Publishing, 1969.
582 S	Selsam, Millicent, Maple Tree, William Morrow and Company, 1967.
582 S	Simon, Seymour, A Tree on Your Street, New York, Holiday House, 1973.
582.1 W	Webber, Irma, Thanks to Trees, New York, W.R. Scott Co., ND.
	Environmental Education Exercises, Bourbon County Schools. Recommended parts: Trees, Balance in nature, Nature prints, and the Fall Season.
	Oaks, Acorns, Climate and Squirrels, National Wildlife Federation publication.

A-V Materials

Kit G #5 "A Tree is Nice," Weston Woods filmstrip.

Peabody Kit: Information time Lesson #145.

RA 3 "Winnie the Pooh and the Honey Tree," read along listening kit, record, cassette, set of 10 books and teacher's manual.

Records/Songs - Exploring Music I

"Autumn Leaves Now Are Falling" p. 96, record 4.

"I Had a Little Nut Tree" p. 35, record 2.

"Jimmy Crack Corn" p. 13, record 1.

"The Magic Vine" p. 78, record 4.

"Peanuts" p. 47, record 5.

BIRDS IN FALL

Length: 3 weeks

Week 1: Characteristics
Week 2: Identification
Week 3: Migration &
winter birds

CHARACTERISTICS OF BIRDS

OBJECTIVES

1. Children will write 3 - 5 sentence stories on the characteristics of all birds.

2. Children will add words bird, beak, wing, feet, egg and nest to vocabularies.

3. Children will label birds body parts: beak, wing, feet.

LEARNING ACTIVITIES

1. INTRODUCTION - Read What is a Bird? or view What is a Bird? filmstrip.

2. VIEW Characteristics of Birds transparency. Follow up with 3 - 5 sentence story on bird characteristics.

3. BUILD A BIRD - To further emphasize the parts of birds, have each child construct his own bird using small boxes or construction paper cylinders glued together. Add wings, feet, beak, etc. with fabric scraps, ribbon, braid or construction paper.

4. LABEL THE PARTS - Have each child draw his own bird and label the parts.

RESOURCES - BOOKS

598.2 D	Darby, Gene, What is a Bird?, Chicago, Benefic Press, 1960.
298.2 G	Gans, Roma, Birds Eat and Eat and Eat, New York, Thomas Crowell, 1963.
598.2 G	Gans, Roma, It's Nesting Time, New York, Thomas Crowell, 1964.
598 O	Ohmart, Edna, Exploring and Understanding Birds, Chicago, Benefic Press, 1970.
598 P	Peterson, Roger Tory, The Birds, Houghton, 1947.

A-V Materials

FSg 598.2 W	"What is a Bird?", Chicago, Benefic, 1960.

IDENTIFICATION OF BIRDS

OBJECTIVES

1. Children will identify at least five common birds.
2. Children will distinguish flying birds from flightless.
3. Children will create at least one bird riddle, either oral or written.

LEARNING ACTIVITIES

1. HOW TO RECOGNIZE BIRDS - Show filmstrip or use pictures from books to show several common area birds. Teaching pictures "Birds of Our Land" and "Common Land Birds of North America" could also be used.
2. FLIGHTLESS BIRDS - Use "Penguins and other land birds" kit.
3. EXOTIC BIRDS - Use pictures from one of the reference books and/or use "Birds of the Zoo" filmstrip. Follow-up by having each child make his own favorite bird using tempera paints or watercolor.
4. BIRD BATTERY BOARDS - Mount pictures of common birds and names of pictured birds on a board that is wired so that a light will light up when the child touches the bird and its correct name at the same time.
5. BIRD FLASH CARDS may be purchased or made from Hayes duplicating pages. Let children use flashcards in small groups to reinforce bird identifications.
6. BIRD WATCHERS WELCOME - Invite a member of the local Audubon Society or Ned Hollister Bird Society to speak to the class about bird watching, identification, and society activities. Sister Erna Daun of Milwaukee "The Bird Sister" presents a bird program suitable for all ages.
7. LIFE CYCLE OF A ROBIN - Use chart. Compare with life cycle of insects previously studied. Have children put cards in correct order of robin's life cycle.
8. STORYTIME - Read aloud to the child the Aileen Fisher books Filling the Bill and You Don't Look Like My Mother.
9. View National Geographic filmstrip "The Way of a Bird" as a culminating activity for this section.

RESOURCES - BOOKS

598.2 A	Austin, Elizabeth S. and Oliver L., The Random House Book of Birds.
598.2 B	Brenner, Barbara, Is It Bigger Than a Sparrow?, Alfred Knoph Publishing, 1972.
598.2 B	Birds We Know, Editors of Creative Education Mini-books, 1973.

A-V Materials

	"Birds," filmstrip, Junior Zoologist series, Niles, Ill., Knowledge Aide, 1974.
	"Birds of Our Land," teaching pictures.
FS 590 Z	"Birds of the Zoo," filmstrip, Encyclopedia Brittanica, 1962.
FS 598 14	"How to Recognize Birds," Society for Visual Education Inc., 1963.
	"Penguins and Other Landbirds" kit, Niles, Ill., Knowledge Aide, 1974.
	"The Life Cycle of a Robin" chart.

MIGRATION AND WINTER BIRDS

OBJECTIVES

1. Children will write 3 - 5 sentences telling why birds migrate.

2. Children will identify two birds that do not migrate.

LEARNING ACTIVITIES

1. INTRODUCTION - Read aloud story Why Birds Migrate. Follow-up with a writing activity in which each child explains in his own words why birds migrate.

2. BIRD BOOKLETS - Begin individual bird booklets on winter birds that do not migrate, that remain here in the winter. Have children draw a picture and write a short story about each bird in his booklet.

3. FEEDING WINTER BIRDS - List reasons that people must help birds on the chalkboard. Make suet balls and peanut butter cones as follow-up to bird feeding discussion.

   > Mix 1 part flour and 3 parts cooking fat. Form a ball. Wrap in plastic onion bag or net potato bag. Tie to tree branch or bush.
   >
   > Spread peanut butter on a pine cone. Roll in seeds. Tie string around top of pine cone and attach to tree or shrub.

   Place some feeders where they may be viewed from the classroom. Watch the feeders and keep a list of bird visitors.

4. BIRD POETRY - Write a group poem using the flight of birds as the theme.

5. BIRD WORKSHEETS - Use selected worksheet from Hayes duplicating master "Birds We Would Know" as a culminating activity for the entire unit.

RESOURCES - BOOKS

598.2 Boyd, Lorenz, Cardinals in the Pine, Abingdon Press,
B 1969.

598.2 May, Julian, Why Birds Migrate, Holiday House, 1970.
M

A-V Materials

"Birds We Should Know," duplicating masters, Hayes School Publishing Inc., 1946.

EVERGREENS AND RECYCLING

OBJECTIVES

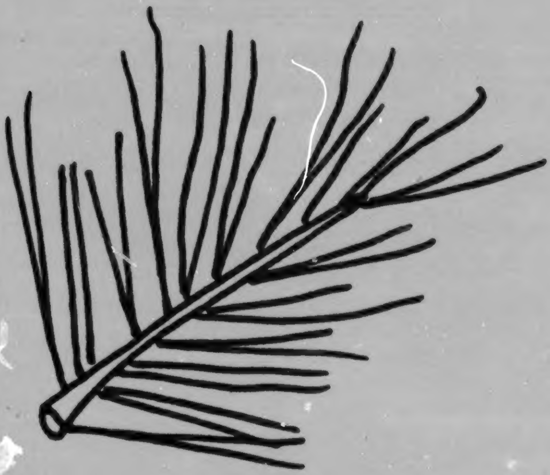
1. The children will be able to write at least three sentences about conifer trees.
2. The children will be able to list one use of a conifer tree.
3. The children will be able to match the words needle and cone to samples of same.
4. The children will be able to use the word recycle in a sentence.
5. The child will recycle at least one material for a Christmas decoration.

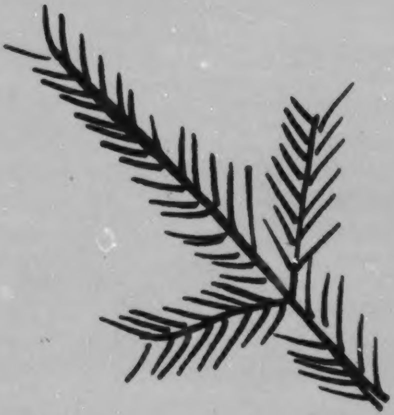
LEARNING ACTIVITIES

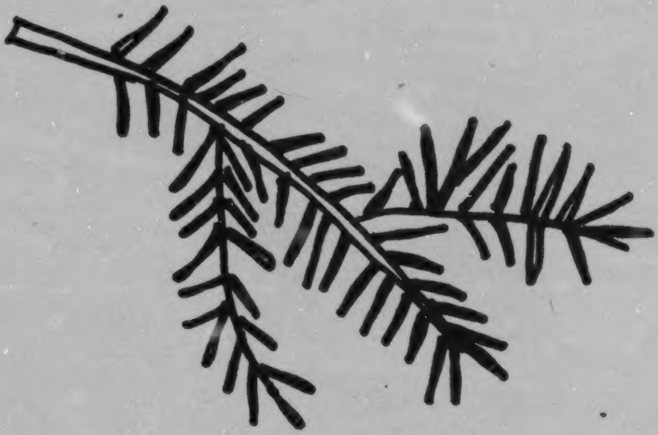
1. CONIFERS IN THE NEIGHBORHOOD- Walk around the schoolgrounds or neighborhood looking for evergreen trees.
2. SAMPLE BRANCHES - Bring in samples of spruce, pine and fir. Samples may be provided by Christmas Tree sales lot. Read the book The Pine Tree. Develop a vocabulary list about conifers. Using the list, have children write three sentence stories about conifers.
3. USES OF CONIFERS - After a discussion, develop a group chart on the various uses of conifers.
4. VISIT A TREE FARM.
5. DEFINE RECYCLE (to use again) and have each child write one sentence about something that can be recycled.
6. RECYCLED CHRISTMAS DECORATIONS - Have children bring materials from home to recycle - such as bottle caps, old Christmas cards, small cans, lids, foil pans, styrofoam objects, colored yarns, pine cones, nuts, etc. Have the children create their own ornaments.

Teacher Background:

Conifer means cone-bearing. If a tree keeps it leaves all through the winter, we call it an evergreen tree. Evergreens include any tree that grows new leaves before shedding old ones. Some are needle like and some are broad leaf such as holly trees and live oaks. Use of conifers include Christmas trees, paper for books, wrapping papers, magazines, etc. lumber, water and soil savers, homes for squirrels, birds, insects, food for deer, insects, chipmunks, and mice.







RESOURSES

582 B	Blaugh, Gless, Christmas Trees and How They Grow, Whitlesley House, 1961.
634.9 F	Farb, Peter, The Forest, Time-Life, 1963.
634.9 B	Budbill, David, Christmas Tree Farm, MacMillan, 1974.
582.16 R	Ross, George M., The Pine Tree, E.P. Dutton, 1966.

TERRARIUMS

OBJECTIVES

1. The children will set up individual terrariums with the help of parent volunteers.

2. The children will write 3 - 5 sentence stories about setting up their terrariums.

LEARNING ACTIVITIES

1. INTRODUCTION - Write the word terrarium on the board. Read Our terrariums or Fun-time Terrariums and Aquariums with the class. Discuss different types of terrariums. Make a list on the chalk board of the different materials needed for setting up a terrarium. Chart the steps for setting up a terrarium.

2. BUILDING TERRARIUMS - Send home letter to parents requesting materials as well as volunteers to aid in the classrooms. Sample letter and terrarium instructions follow.

3. OBSERVATION - Have each child write his/her own story about setting up a terrarium. Have the children observe any changes in their terrariums and then add to their stories as thy notice different things happening.

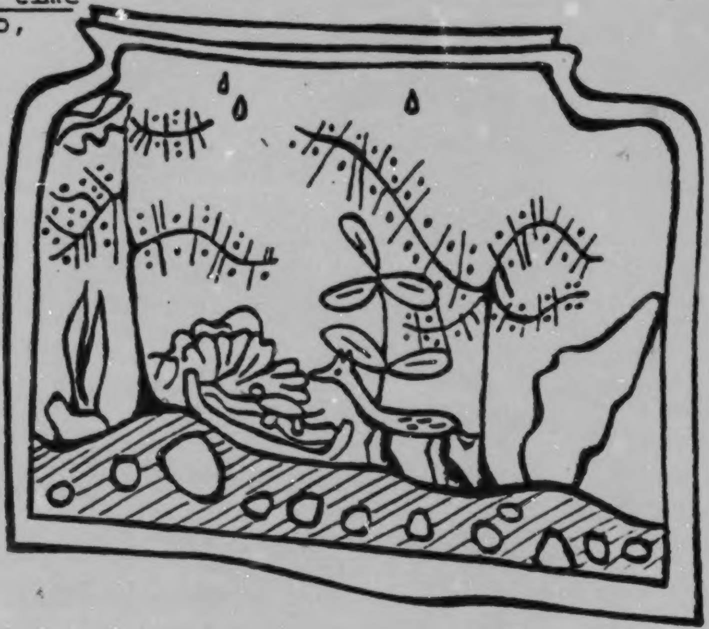
RESOURCES - BOOKS

574 L Leavitt, Jerome, Fun-time Terrariums, Chicago, Children's Press, 1961.

574 S Simon, Seymour, Science Projects in Ecology, New York, Holiday House, 1972.

574 W Wong, Herbert, Our Terrariums, Addisonian Press, 1969.

597 G The Science-Hobby Book of Terrariums.



TERRARIUMS

A terrarium is a garden under glass. It is a landscape in miniature. It is a natural arrangement of plants. It is plants that all belong to the same plant community. It is a place where plants grow all year round. It may even house an animal or two.

The idea of a terrarium was the result of an accident. In the 1920's Dr. Nathaniel B. Ward, a physician who was intereste- in all living things, put a chrysalis on some moist earth and placed it in a covered glass jar to watch it develop into a butterfly. A fern began to grow in the jar in the moist earth. Dr. Ward watched the fern grow in the jar four years until it was accidentally destroyed. He began experimenting with many different kinds of plants and found they required very little care.

You might enjoy experimenting with terrariums, too.

Fall is a good time to start a woodland terrarium. Go into the woods and collect your own plants. You might even collect a worm or two and a small animal. Try to imitate a small forest.

You may want a desert terrarium. Place a layer of sandy soil on the drainage layer. Set cactus palnts in the soil. Water the soil around the plants about once a week but don't get the plants wet.

STEPS TO BUILDING A TERRARIUM

1. Choose a glass container for the terrarium.
2. Put in the container a drainage layer of gravel or sand mixed with charcoal and pieces of broken flower pot.
3. Put a layer of soil on top of the drainage layer.
4. Be sure your plants are small enough for the container.
5. Arrange plants so that they look like a miniature forest.
6. You might like your soil arranged at different levels rather than all smoothed out.
7. Water plants enough to dampen the soil.
8. You may or may not use a lid on your terrarium, but if you have a lid sitting loosely on the container the plants will form their own moisture and you should never have to water the plants any more. When the temperature in the terrarium rises, the water will evaporate, and when the temperature goes down, the water will condense on the glass and run down into the soil. Place the terrarium in a cool place with plenty of light.

January 19, 1977

Dear Parents,

On Thursday, January 27 all first graders will be setting up individual terrariums which he/she may take home later.

Each child should bring 1 or 2 small plants, any type of wide-mouth jar with a lid, crushed charcoal to share, and terrarium gravel or a flower pot which has been broken in small pieces for drainage. Sand and soil will be furnished.

Your child may wish to decorate the terrarium. If so, he/she may bring colored rock chips or a little artificial animal, etc. The supplies may be brought any time this week. We would like them all here by Monday so we can get them organized.

We would appreciate parent volunteers for this project. You can have fun helping your child set up his/her terrarium.

If you plan to help us, please sign and have your child return the blank below to the homeroom teacher.

Thank you very much for your cooperation.

Respectfully,

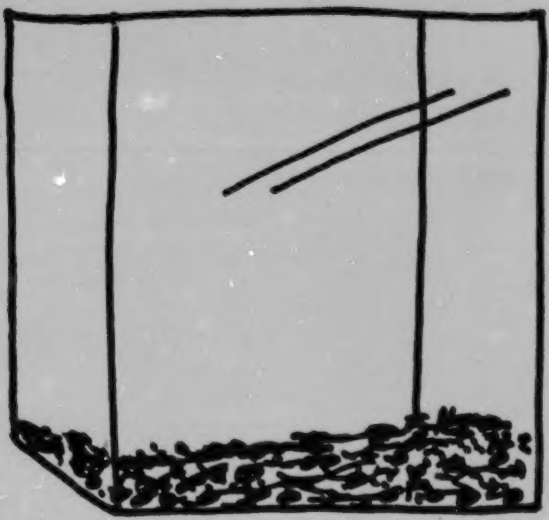
First Grade Teachers

- -

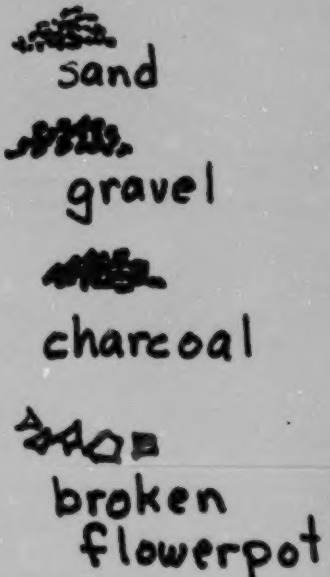
I can help set up terrariums on Thursday, January 27th at 12:15 P.M.

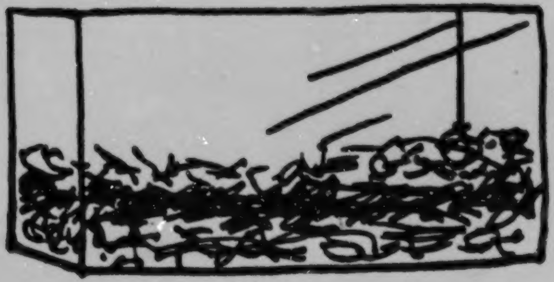
Name____

Terrariums

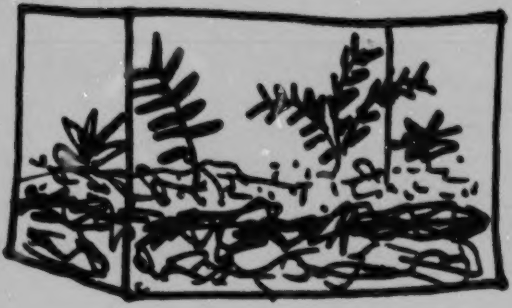


Drainage layer
(1 to 2 inches
thick)


sand
gravel
charcoal
broken flowerpot

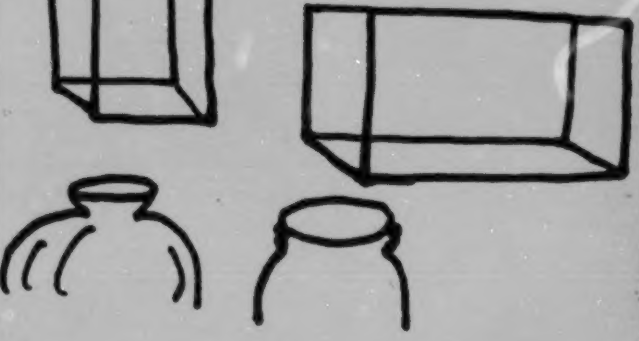


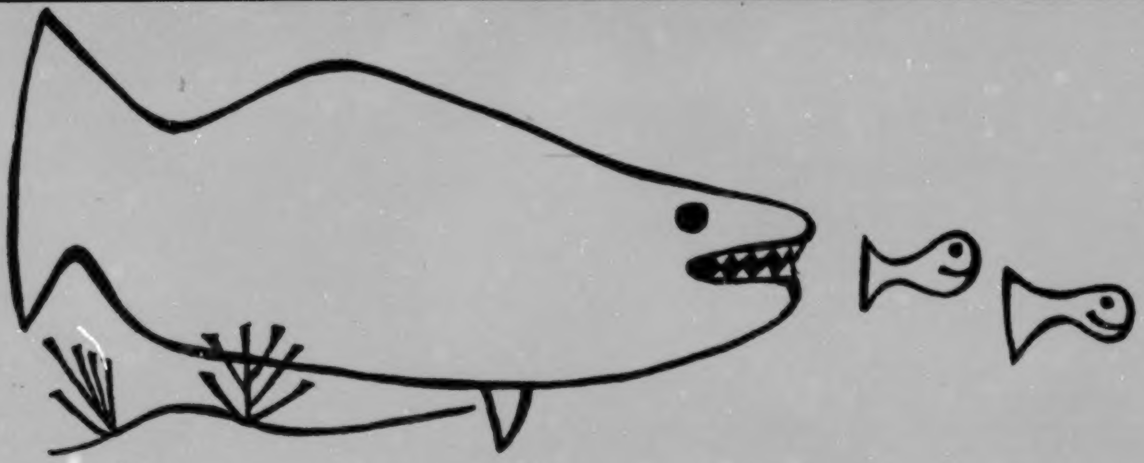
Layer of topsoil
(1 to 2 inches slightly moistened)



Plants

Types of Containers





FISH: CHARACTERISTICS IDENTIFICATION

OBJECTIVES - Characteristics of fish

1. The children will label the parts of a fish - eyes, gills, fins, body, and tail.

2. The children will write 3 - 5 sentence stories about the characteristics of fish.

LEARNING ACTIVITIES

1. INTRODUCTION - Show the filmstrip "Fish" or read the book Let's Find Out About Fishes as an introduction to the unit.

2. DRAW A FISH - Have each child make an outline of a fish and then label the parts - eyes, gills, fins, body, tail.

3. View"Characteristics of Fish" transparencies or use SVE study prints as basis for discussion.

4. FISHY WRITING - Have each child write a 3 - 5 sentence story about fish characteristics. This activity could also be used as the culmination of the unit.

5. SWIMMY - Make stick puppets to dramatize the story of Swimmy by Leo Lionni. Invite parents to the show. This would also be a good time for the parents to see all the ecology writing done by the children up until this time.

OBJECTIVES - Identification of fish

1. The children will identify 3 - 5 common fish.
2. The children will develop an awareness of tropical fish in contrast to common fish.
3. The children will define a "school of fish" and give at least one reason why fish travel in schools.

LEARNING ACTIVITIES

1. BUILD A SIMPLE AQUARIUM - Read about building an aquarium in the book Fish by Zim. Place goldfish in the aquarium. Have children take turns cleaning the aquarium and feeding the goldfish.

   AQUARIUM ART PROJECT - Use paper plate for your aquarium. Water color the background. Use construction paper to make fish and water plants to be glued on the background.

2. FISH IDENTIFICATION - View slides "Common Fresh Water Fish" or use study prints to illustrate several different common fish. Discuss likenesses and differences.

3. TROPICAL FISH - Visit a tropical fish shop if possible or read the book of The True Book of Tropical Fish with the class. The book A Trip to the Aquarium could also be used.

   TROPICAL FISH ART PROJECT - Draw the outlines of the two sides of your fish on newsprint. Decorate with construction paper or use colored chalk (set the colors with hair spray). Cut out the fish shapes, leaving tabs for connecting the two sides together. Leave an opening so that the fish may be stuffed with crumpled newspaper before it is totally closed.

4. FISH POETRY - Read poems about fish to the class. Have each child write a two line rhyme about fish.

5. CLASS MURAL - Each child could make one fish or water plant for a class bulletin board mural.

6. MAN'S USE OF FISH - Discuss and list the various ways that fish are used by man.

RESOURCES - BOOKS

574.92 B	Broekel, Ray, True Book of Tropical Fishes, Chicago, Children's Press, 1956.
597 F	Fichter, George S., Fishes and How They Live, New York, Golden Press, 1961.
597 G	Greene, Carla, A Trip to the Aquarium, New York, Lantern Press, 1967.
597 H	Hornblow, Leonora, Fish do the Strangest Things, New York, Random House, 1966.
597 S	Shapp, Martha, Let's Find Out About Fishes, New York, Watts, 1965.
597 S	Shaw, Evelyn, Fish Out of School, New York, Harper & Row, 1970.
597 W	Wildsmith, Brian, Brian Wildsmith's Fishes, New York, Watts, 1968.
597 Z	Zim, Herbert S., Fishes, New York, Golden Press, 1956.
574.92 Z	Zim, Herbert S., Goldfish, New York, Morrow, 1947.

A-V Materials

TRA 597 C	"Characteristics of Fish", transparency No. 813-3, Instructo, 1963.
SLg 597 C	"Common Freshwater Fishes", slide kit, SVE, 1972.
FSg 597 F	"Fish", filmstrip, Part I, #6, Museum Extension Service, 1963.

REPTILES AND AMPHIBIANS

Suggested time: Three weeks

1. Characteristics
2. Reptiles
3. Amphibians

OBJECTIVES - Characteristics of reptiles and amphibians

1. The children will read the words reptile, amphibian, scales, lungs, and gills.

2. The children will write 3 - 5 sentence stories about the characteristics of reptiles and amphibians.

LEARNING ACTIVITIES

1. INTRODUCTION - View transparencies on "Characteristics of Reptiles" and "Characteristics of Amphibians" or filmstrip on "Reptiles and Amphibians." Follow-up pictures and discussion by having each child write a 3 - 5 sentence story on the characteristics of reptiles and amphibians. List on the board any new vocabulary associated with reptiles and amphibians.

2. INDIVIDUAL REPTILE AND AMPHIBIAN BOOKLETS - The first page of the booklet should be a list of the general characteristics or the story written on that topic. Additional pages may be added to the booklet as specific reptiles and amphibians are explored.

3. CREEPY CRAWLY THINGS - Read aloud book on Creepy, Crawly, Things from National Geographic. Follow with discussion of the differences between reptiles and amphibians.

4. VIEW SLIDES AND PRINTS - Singer Educational slide set or SVE study prints may be used for further discussion of characteristics.

RESOURCES - BOOKS Part I

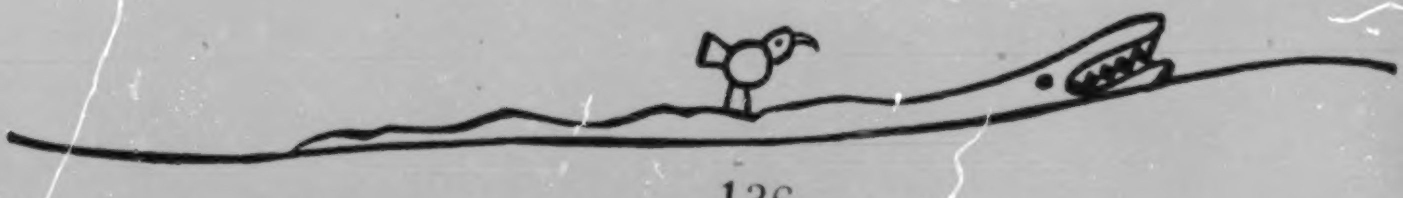
598.1 O	Otto, George R., Exploring and Understanding Amphibians and Reptiles, Chicago, Benefic Press, 1968.
598.1 N	Creepy, Crawly Things, Books for Young Explorers, National Geographic Society, 1974.

A-V Materials

SLg 591 A	"Amphibians and Reptiles", slides, SG 385, SVE, 1970.
TRA 597 C	"Characteristics of Reptiles", Teaching Transparency, Instructo, 1965.
TRA 598.1 C	"Characteristics of Reptiles", Teaching Transparency, Instructo, 1965.
SFSg 590 L	"Life Cycles: Amphibians and Reptiles", filmstrip, National Geographic Society, 1974.
FS 590 W	"Reptiles and Amphibians of the Tropical Forests", Part 6, filmstrip, Encyclopedia Britannica Films, 1959.
	"The Junior Zoologist: Reptiles and Amphibians", filmstrip 3, Filmstrip House, 1973.

PART II - OBJECTIVES - REPTILES

1. The children will draw their favorite reptiles and write 3 - 5 sentence stories about them.
2. The class will compose a 2 - 4 line rhyme about a specific reptile.
3. Each child will make up a 2 - 4 clue riddle about a specific reptile.



LEARNING ACTIVITIES - REPTILES

1. INTRODUCTION - Read The Reptiles, The True Book of Reptiles, or What is a Reptile? to class to give background information on reptiles in general.

2. SNAKES -
   a. View filmstrip "Zoo Snakes and Their Relatives", follow with discussion, storywriting, or a poetry activity.

   b. Read Snakes by Meeks to class.

   c. Study "Garter Snake" SVE picture. Follow with individual pictures and stories about the garter snake. (Use as a check on listening skills.)

   d. Write individual story and add to reptile booklet.

3. ALLIGATORS AND CROCODILES -
   a. Study SVE "Alligator" picture.

   b. Read Alligators and Crocodiles by Zim or Alligator by Shaw. Follow with individual stories.

   c. Sequence activity - After reading Alligator Hole, Olly's Alligator, The Crododile in the Tree, or The Alligator's Problem, write four sentences summarizing the story read. Number the sentences on the board or on a worksheet in the order in which they happened in the story.

   Draw four pictures in proper order.

   Have class retell the story orally, one sentence at a time, using the tape recorder.

   d. Write individual stories to add to reptile booklet.

4. TURTLES -
   a. Read What is a Turtle? with class. Follow up with individual pictures and stories to add to reptile booklets.

   b. Eggshell turtles - Sculpt a turtle with modeling clay and add an empty eggshell for the turtle's shell. Paint the shell with watercolor or tempera to more closely resemble a turtle. Or add legs and head made out of construction paper instead of using clay.

   c. Read one or more stories from the book Turtles and Tortoises by Johnson.

   d. Study resource sheets on turtles - "Turtle Derby" and "Turtles" by Cook Pub.

5. LIZARDS AND PREHISTORIC REPTILES -
   a. Study resource picture "lizard" (Pets, David C. Cook Publishing Co.) Discuss differences between lizards and other reptiles we've studied.

   b. Read parts or all of Strange Lizards.

   c. Study dinosaurs as lizards of long ago. Use Let's Read About Prehistoric Animals (Kay Ware) as resource material.

   d. Look at dinosaur pictures- "Animals of the Primeval World."

   e. Do soap carving of favorite dinosaur. Hve each child bring in bath size bar of soap (Ivory carves easiest) and a dull knife and or spoon. Let children look at pictures of various dinosaurs, pick one, and try to carve at least the silhouette in soap. More talented children could work on complete lizard.

   f. Write an individual story about a favorite lizard or dinosaur to add to Reptiles booklet.

6. CULMINATING ACTIVITIES - Make up a 2 - 4 clue riddle about a favorite reptile. Children take turns giving riddles to one another. Have class write a 2 - 4 line rhyme about one reptile.

RESOURCES - BOOKS

598.1 B	Ballard, Lois, The True Book of Reptiles, Children's Press, 1957.
598.1 D	Darby, Gene, What is a Turtle?, Benefic Press, 1960.
E	Duvoisin, Roger, The Crocodile in the Tree, Knopf, 1973.
598.1 E	Earle, Olive L., Strange Lizards, Morrow, 1964.
598.1 I	Inger, Robert F., The Reptiles, Follett, 1966.
598.1 J	Johnson, Fred, Turtles and Tortoises, National Wildlife Federation, 1973.
598.1 M	May, Julian, Alligator Hole, Follett, 1969.
588.1 M	Meeks, Ester K., Snakes, Follett, 1962.

E Sargent, Robert, The Alligator's Problem, Scribner's, 1966.

E Shaw, Evelyn, Alligator, Harper & Row, 1972.

598.1
W Wescott, Alita C., What is a Reptile?, Benefic Press, 1964.

598.1
Z Zim, Herbert S., Alligators and Crocodiles, Morrow, 1952.

A-V Materials

P
568 "Animals of the Primeval World", Study Prints, Walt
A Disney Productions, 1972.

FS
590 "Zoo Snakes and Their Relatives", Zoo Adventure Series,
Z Pt. 4, filmstrip, Encyclopedia Britannica, 1962.

PART III - OBJECTIVES - AMPHIBIANS

1. Each child will draw an amphibian and write at least a 3 - 5 sentence story about it.
2. Each child will differentiate between toad and frog either orally or in written form.

LEARNING ACTIVITIES

1. REVIEW - general characteristics and differences between reptiles and amphibians.
2. FROGS -
   a. Use SVE Bullfrog picture for introduction.

   b. Read The Tale of a Bullfrog to the class.

   c. Use "Life Cycle of a Frog" kit to further develop idea of life cycle changes in amphibians.

   d. Have each child draw a tadpole and an adult frog and label the body parts such as gills, legs, body, head, and tail.

   e. Use the books Bullfrog by May or The Frog by Taylor for further enrichment.

   f. Add frog story and picture to individual booklets.

3. TOADS -
   a. Read pp. 7 - 12 in Zim's *Frogs and Toads* to learn differences between frogs and toads. A writing activity listing the ways that the two groups are different may follow or a riddle game giving characteristics and having children respond by saying either "Frog" or "Toad." "I have dry skin. What am I?"

   b. Study SVE "Toad" picture and follow with discussion.

   c. Add toad story and picture to individual booklets.

4. SALAMANDERS -
   a. Study SVE print titled "Spotted Salamander."

   b. Read to class *Spotted Salamander* by McClung. Follow with picture and story about salamanders for individual booklets.

   c. Read about individual salamanders in *Creepy, Crawly Things*.

5. CULMINATING ACTIVITES
   a. View slides of "Reptiles and Amphibians" and identify not only the animal pictures but also its correct classification.

   b. Use SVE picture set on "Reptiles and Amphibians" and allow class to make up riddles for others.

   c. Administer the following *yes*-*no* check test:

      1. Reptiles breathe with lungs. (yes)

      2. Amphibians have gills as babies. (yes)

      3. Frogs are reptiles. (no)

      4. Turtles are reptiles. (yes)

      5. Reptiles lived long ago. (yes)

      6. Snakes have no bones. (no)

      7. All reptiles have legs. (no)

      8. Frogs and toads are exactly alike. (no)

      9. Amphibians have smoother skin than reptiles. (yes)

      10. Reptiles are cold-blooded. (yes)

RESOURCES - BOOKS

597 Kane, Henry B., The Tale of the Bullfrog, Knopf, 1941.
K

597 May, Julian, The Life Cycle of a Bullfrog, A Creative
M Education Mini Book, 1973.

597 McClung, Robert M., Spotted Salamander, Morrow, 1964.
M

Taylor, Eileen, The Frog, Andover Hants, England, Philograph, 1958.

597 Zim, Herbert S., Frogs and Toads, Morrow, 1960.

598.1 Creepy, Crawly Things, National Geographic Society, 1974.
N

A-V Materials

SLg
591 "Amphibians and Reptiles", slides, SVE, 1970.
A

"The Life Cycle of a Frog", sequence chart kit, The Child's World, Mankato, Minn., 1971.

"Reptiles and Amphibians", Study Prints - 111, SVE, Chicago, Illinois, 1964.

WEATHER IN WINTER

Suggested time: One week

OBJECTIVES

1. The child will be able to write three sentences about snow.

2. The child will be able to identify ice and water.

3. The child will be able to chart the weather conditions for three days.

LEARNING ACTIVITIES

1. PEABODY LESSONS: Level II, Lesson 10 - "The Boy and the North Wind." All of Lesson 80 "Signs of Winter."

2. ICE CUBE GAMES - Give each child an ice cube and then play the game "Who can get an ice cube to melt really fast?" When the melting is completed, make a chart listing the good ways and the poor ways of melting ice cubes. A second game is; "Who can make an ice cube last really long?" Use a clock for timing both the fast and slow melters. Have the students try to predict how long it would take an ice cube to melt in some new location that hasn't been tried.

3. FALLING SNOW - Have each student catch falling snow on a dark cloth or locate newly fallen snow on a dark surface. Have children draw or sketch some snow crystals based on their obsevations. Make a class list of characteristics of snow flakes.

4. PARENT INVOLVEMENT ACTIVITY - See sample activity sheet following this unit.

5. A WINTER MURAL - Plan and put up a class mural showing how winter affects people and animals.

6. WEATHER CHARTING - Keep a weather chart like the one suggested for fall; however, chart for three days this time.

RESOURCES

All of the materials necessary for this unit is listed in the resource section on the unit titled "Weather in Fall."

Date

Dear Parents,

In order to help your child observe the winter season and also to promote better communications between your child and you, the Title III Program has produced the following home study sheet which is to be returned by ____________ The child is encouraged to draw pictures, talk about his other experiences, write sentences and stories.

Thank you

1. Winter begins on ______________
(date)

2. Draw and label plants as seen in winter.

3. Draw and label animal tracks seen in the snow.

4. List family activities observed outside. (work and fun)

5. Write stories: Encourage the use of descriptive words.
Examples -- Describe a particular day.
Write a story about an animal or bird that you have observed.
Write about a family vacation trip -- skiing, skating, or other winter excursions.
Write little rhymes about birds, animals, snow, etc.
(use attached lined paper)

6. Weather chart

Select two days

Day	Kind of day	Time of day	Temperature	Notes
Example Dec 12	sunny	8:00 am	24°	windy

7. I have something else interesting to tell.

MAMMALS

Suggested time: five weeks

I. Introduction of characteristics
    A. Pets
    B. Farm animals

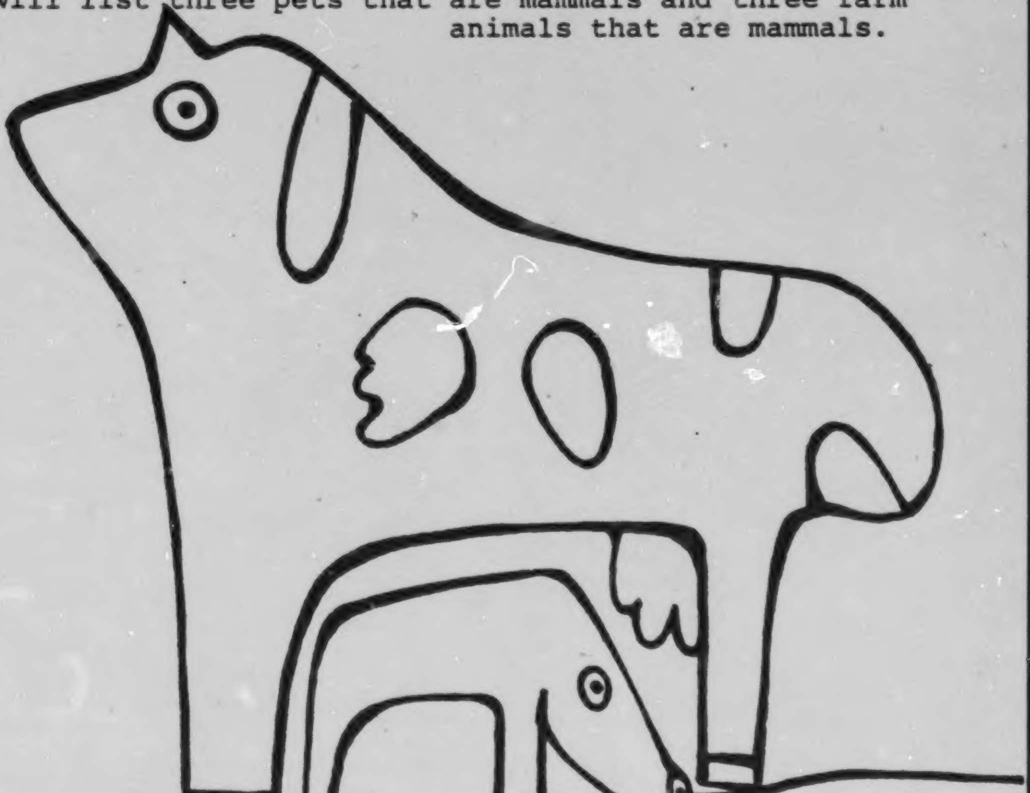
II. Native mammals
    A. Wisconsin (badger, weasel, skunk, squirrel, gopher, beaver, rat, porcupine, mouse, raccoon, fox, wolf, opossum, deer, bear, mole, and so forth.)
    B. United States (bears, mountain goats, big horn sheep, and so forth.)

III. Other mammals
    A. Jungle (monkey)
    B. Grassland (lion, tiger, leopard, jaguar, elephant, and so forth.)
    C. Arctic (polar bear)
    D. Water (otter, walrus, seal, dolphin, porpoise, whale)
    E. Flying (bat)
    F. Australian (kangaroo, koala)

OBJECTIVES - Characteristics of mammals

1. Each child will write 3 - 5 sentences about the characteristics of mammals.

2. Each child will list three pets that are mammals and three farm animals that are mammals.



LEARNING ACTIVITIES

1. PRETEST -

    yes no 1. A mammal has hair or fur.

    yes no 2. A chicken is a mammal.

    yes no 3. Badgers live in trees in Wisconsin.

    yes no 4. A mammal hatches from an egg.

    yes no 5. Lions and tigers eat grass.

    yes no 6. An endangered species is an animal which might die out soon.

    yes no 7. An elephant is a mammal.

    yes no 8. A bat is a mammal.

    yes no 9. A whale is a mammal.

    yes no 10. Mammal babies drink milk.

2. INTRODUCTION - Use filmstrips, transparencies, study prints, or books with good pictures to introduce characteristics. Characteristics to be developed include: backbone, breathe air (have lungs), warm blooded, born alive, the young drink milk, hair or fur, four limbs, and somber colors - some color changes with seasons.

3. MAMMAL BOOKLETS - This is a good unit to have each child develop a written booklet. Use construction paper for the cover and 12 x 18 writing paper with space for pictures.

4. LIST CHARACTERISTICS - On chart paper have the class make a list of mammal characteristics.

5. FARMYARD ANIMALS - Have the children draw a complete farmyard with all of the animals they can think of. When the picture is completed, have the children circle the mammals.

6. PETS - Have those children with pets that are mammals draw pictures of their pets and report to the whole class.

7. READING TIME - By use of a variety of easy library books, have the children read stories to each other.

8. Each child should write a 3 - 5 sentence story about the characteristics of mammals. Children may also write stories about farm and pet mammals to add to their individual booklets.

NATIVE AMERICAN AND WISCONSIN MAMMALS

OBJECTIVES

1. Each child will list five Wisconsin mammals.

2. Each child will write and illustrate a five sentence story about a native American mammal.

3. Each child will name one endangered Wisconsin mammal.

LEARNING ACTIVITIES

1. CLASS LIST - Have children list as many Wisconsin mammals as they can think of. Then use booklet from Wisconsin Department of Natural Resources to add mammals not already on list.

2. INDIVIDUAL MAMMALS - Use easy reference books to study Wisconsin mammals such as the badger, weasel, skunk, squirrel, gopher, beaver, rat, porcupine, mouse, raccoon, fox, wolf, opossum, deer, bear, and mole. Have children write stories and draw pictures of individual animals. Add pages to Mammal Booklets.

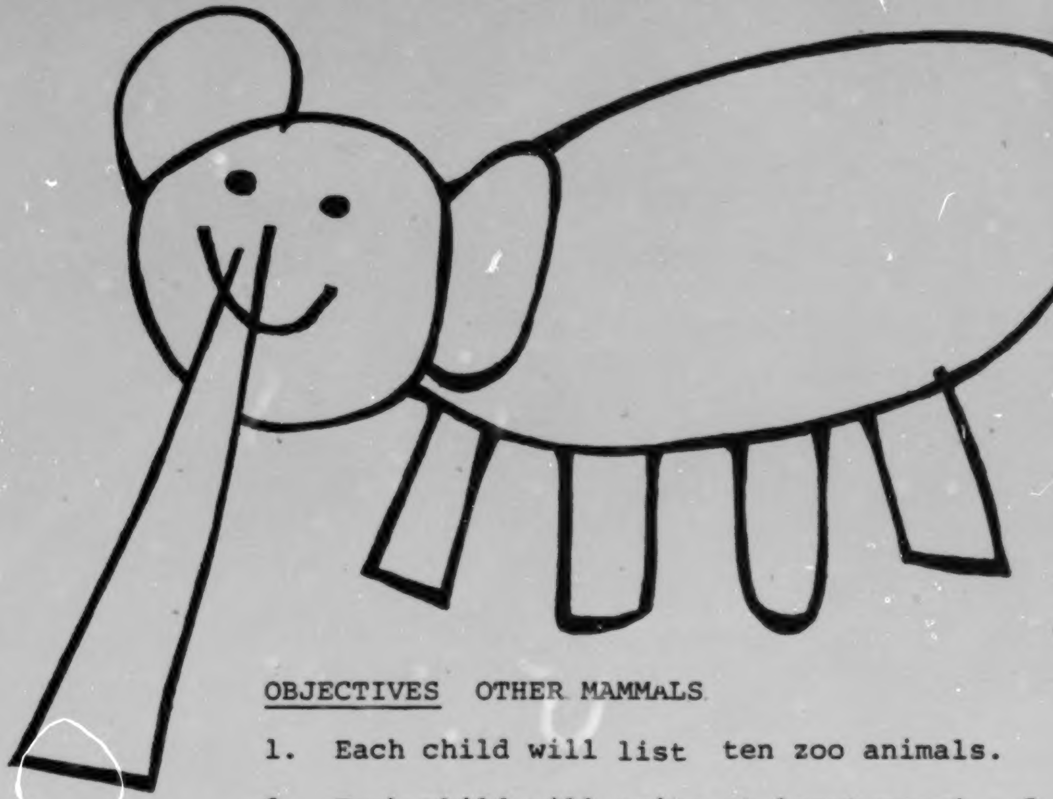
3. ENDANGERED SPECIES - Introduce the word "endangered" and present a list of all Wisconsin endangered species. Then point out mammals on list. (underlined)

    bald eagle
    timber wolf
    double-crested cormorant
    osprey
    peregrine falcon
    pine martin
    Canadian lynx
    wood turtle
    ornate box turtle
    queen snake
    massasauga rattlesnake

4. STUFFED ANIMALS - Make large stuffed native mammals to hang from room ceiling. Cut out shapes from newsprint, tab to close, stuff with newspaper, and decorate with cut construction paper. Each child could pretend to be the mammal he has made and then write a story in the first person.

5. RIDDLES - Write riddles about native mammals. Who am I? Share riddles with the class.

6. MAKE CLAY ANIMALS

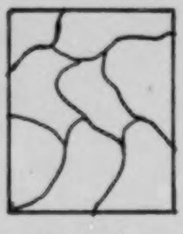


OBJECTIVES OTHER MAMMALS

1. Each child will list ten zoo animals.
2. Each child will write at least one 3 - 5 sentence story about a zoo mammal telling about its natural home.

LEARNING ACTIVITIES

1. NATURAL HABITATS - Use National Geographic filmstrip on "Life Cycles" stressing habitats of mammals.
2. CLASSIFICATION - Use filmstrips "Zoo Animals" and "The Milwaukee Zoo" along with reference books and library books to develop classifications of mammals.
3. ZOO ANIMAL PUZZLES - Draw a large picture of a zoo mammal. Paste it evenly on tagboard. Cut up in puzzle fashion.



4. WHAT AM I? - List all zoo mammals on a vocabulary list. Make flashcards to be pinned on each child's back. By asking questions, each child must discover his mammal identity.
5. WATER MAMMALS - Study water mammals through the use of reference books such as The True Book of Whales and Other Sea Mammals. The class could paint a water mural.
6. ARCTIC MAMMALS - After discussing Arctic mammals, make a scene using cotton for texture.
7. AUSTRALIAN MAMMALS - Read and discuss. Write at least one story about an Australian mammal to add to the student's mammal booklets.

8. PAPER BAG PUPPETS - Use lunch bag size brown bags and decorate with construction paper, yarn, etc. Try to have a variety of mammals in the class. Some of the more advanced students could write a puppet show involving the paper bag puppets.

9. ZOO VISIT - Take a class field trip to a zoo or encourage families to visit zoos during the unit. Stories should be written about the visits.

10. DRAMATIZE an animal story such as "Goldie Locks and the Three Bears," "The Billy Goats Gruff," or "The Three Little Pigs."

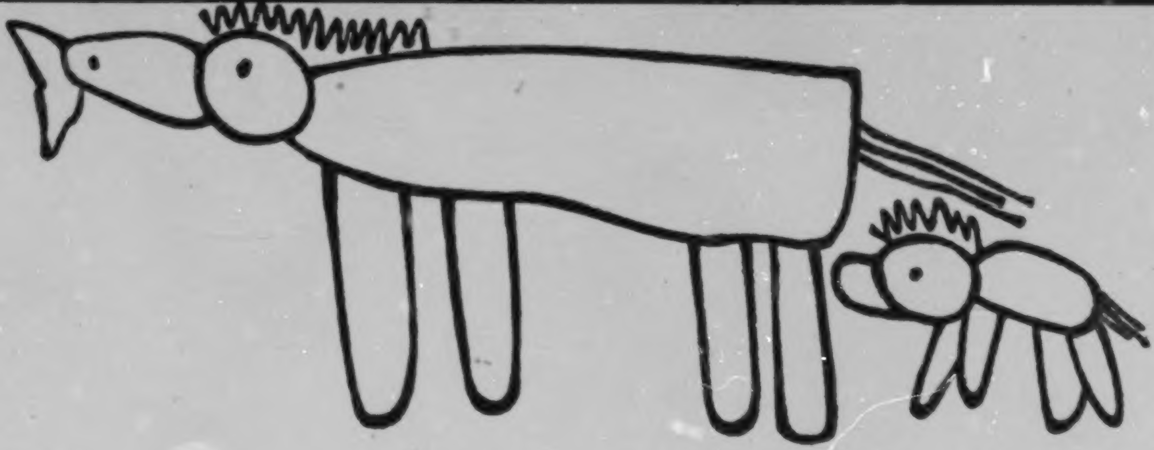
MATERIALS

Because so many mammal books are available in all libraries, only a few outstanding books on mammals are listed here. The 599 section, Dewey Decimal System, is a source for many books on mammals. Two excellent series that include many good pictures and stories on mammals are the Natiional Wildlife Federation Books and the National Geographic Society Books.

599 B	Boorer, Michael, Mammals of The World, Grosset and Dunlap, 1971.
R 599 J	Jackson, Hartly H.T., Mammals of Wisconsin, University of Wisconsin Press, 1961.
599 M	Meeks, Esther K., Mammals, Follett, 1965.
	Wisconsin Dept. of Natural Resources, Wildlife Resource of Wisconsin, Individual copies free to teachers. Write DNR, Route #3, Watenda Drive, Waunakee, WI 53597. Publication #D4617 (73).
599 W	Williamson, Margaret, The First Book of Mammals, Beginning Science Book.

A-V MATERIALS

SFSg 590 L	Life Cycles: Mammals, filmstrip, National Geographic, 1974.
	Junior Zoologist: Mammals, filmstrip/cassette, SVE.
SFSg 590 Z	Zoo Animals, filmstrip, Coleman Film Enterprises, 1968.
KIT 590 M	Milwaukee County Zoo, slides, Milwaukee Co. Park Commission, 1972.
TRA 599 C	Characteristics of Mammals, transparency, Instructo, 1965.
	Wild animals, pets, farm and ranch animals, zoo animals, study prints, SVE Series by Singer, Chicago.
	We all drink milk pictures, Chicago, American Dairy Assoc.



MAMMAL UNIT

Enrichment activities for advanced students

Writing ideas

1. Write a story about a magazine picture of a mammal.

2. Use story starters: It was snowing hard when Mother rabbit looked out of her home in the ground......
   Little Beaver was playing in the water when suddenly he saw something big and black coming after him......
   The kangaroo family decided to take a picnic to the park......

3. Create a Blotto animal and write about it (unusual habits, foods, noises, friends, home, etc.) Make a Blotto by taking a sheet of art paper, folding it in half and then dropping a blob of paint on one side of the paper. Fold the other side over and press or pat with your hand. When you open the paper, you will have a Blotto animal. Crayons may be used to add features or limbs to the animals.

4. Write a biography of a mammal. Tell about family home, friends, enemies, foods, life cycle, etc.

5. Create a sequence story. Draw three stages. (parts of life, parts of a day, seasons, etc.) Then write about it.

6. Answer one of these (or create your own questions and answers).
   - How the camel got his hump
   - How the bear lost his tail
   - How the zebra got his stripes
   - How the tiger got his stripes

7. Cross "breeds" like kangaroosters, porcudeer. Write about its habits, etc.

8. Poetry
    a. rhyming words
       Raccoon-noon, soon, loon, spoon
    b. motion: Cut out shape of animal or its foot print. Write a simple poem or descriptive sentence about it.
    c. cinquain (five lines: first line 1 word
       second " 2 words
       third " 3 words
       fourth " 4 words
       fifth " 1 word

9. I wish I were ____________ (a mammal). Tell why.

10. Alphabet Mammals - make a picture dictionary or chart listing mammals that start with each letter of the alphabet.

11. Writing descriptive words about a mammal.
    Brave
    Enormous
    Angry
    Resting
    Cuddly
    Adorable
    Tiny

12. Write a mammal comic strip.

13. Scrambled mammal names: Partners can write, trade and solve.
    nloi
    gdo
    rbea

14. Use of Ranger Rick Magazines; write reports.

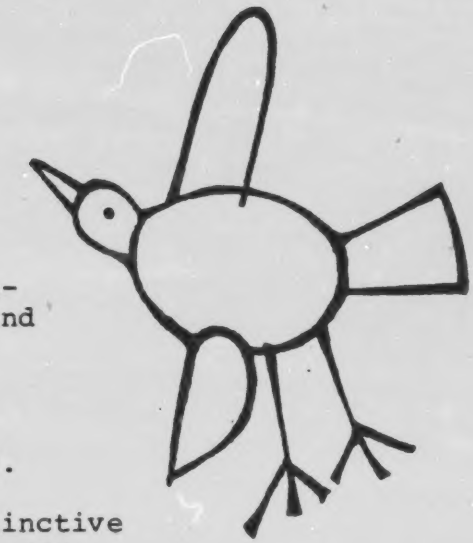
15. Classify mammals by their foot type (paw or hoof).

16. Classify mammals by their mode of transportation.

17. Write a puppet show.

BIRDS IN SPRING

Suggested time: One week

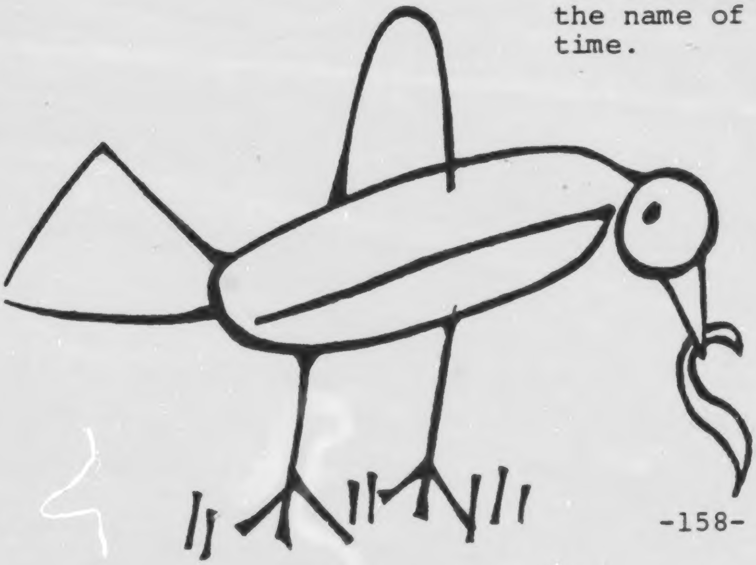


OBJECTIVES

1. The children will review the vocabulary words bird, beak, feet, egg, and nest.
2. The children will write a 3 - 5 sentence story on nest building or other bird activities in the spring.
3. The children will identify one distinctive bird nest and two distinctive bird eggs.

LEARNING ACTIVITIES

1. REVIEW - Use What is a bird? filmstrip or book.
2. NESTS AND EGGS - Show filmstrip. Discuss need for special nests and distinctive egg markings and coloration. Follow with a writing activity or oral identification quiz.
3. BIRD FIELD TRIP - On a school grounds bird trip, use a bird identification guide to help with identification. Make a list, write about, or draw pictures of the birds seen on the hike. Also look for bird's nests while walking.
4. BIRD RIDDLES - Use SVE bird pictures or pictures from books and magazines as basis for oral riddles which the children may give to each other.
5. BIRD BOARDS - A sheet of plywood with electrical wiring between pictures and words is fun for the students to use to learn bird identifications. The board should be wired so that the flashlight bulb lights up when the student touches the picture and the name of the bird at the same time.



RESOURCES

See unit titled "Birds in Fall."

WEATHER IN SPRING

Suggested Time:
one week

OBJECTIVES

1. The children will be able to write five sentences about rainy weather.

2. The children will be able to discuss a cloud, thunder, lightning, wind, and a rainbow.

3. The children will be able to chart weather conditions for a five day period.

4. By means of drawing pictures, the children will show three changes in weather.

LEARNING ACTIVITIES

1. RAIN - The Weston Woods filmstrip "Rain Drops Splash" may be used for motivation. Sing songs, play recordings and read poems about the rain. List words that describe the sounds of rain. Make up simple rhymes about rain.

2. WINDY DAYS - You could read "The Wind" poem by Robert Louis Stevenson to begin discussion of wind. List words to describe what the wind does and how the wind sounds.

3. CLOUDY DAYS - Discuss how clouds look. Read some poetry about clouds. Make pictures showing what clouds tell about the weather.

4. THUNDER AND LIGHTNING - The poem "One Day" by John Ciardi is a good one to begin discussion. List words to describe thunder and lightning. Have children write and share stories about thunder and lightning.

5. MOTION POETRY - Each child cuts a large rain drop, cloud, or lightning shape. On the shape a descriptive sentence or poem is written.

6. WEATHER CHARTS - Use the same format suggested in the fall weather unit. Keep a chart for five days. Compare the charts to the charts made in the fall.

7. PEABODY KIT LEVEL II - Lesson 73 on Rain contains many good activities and is excellent for descriptive words.

8. WEATHER PICTURES - Have parents and children clip pictures and articles about weather affecting us. Children should bring the stories and pictures to school to share with the class and place on a weather watch bulletin board.

9. Additional materials that could be used are "Uncle Huffenpuffer" from the "Awareness of the World Around You" kit and Science for You: Book One pp 12.

10. CULMINATING ACTIVITY - At the end of the week, the children may use the room reference books and all background activities to write about rainy weather. Encourage students to write at least five sentences.

RESOURCES

All weather materials are listed at the end of the unit titled "Weather in Fall."

PLANTS IN SPRING

Suggested Time: One week

OBJECTIVES

1. The children will observe and participate in the planting of a vegetable garden.

2. The children will observe and participate in the transplanting of vegetable plants in a garden.

3. Each child will write a 3 - 5 sentence story about his/her favorite vegetable.

4. Children will identify 3 - 5 wildflowers on the school grounds or in the area.

LEARNING ACTIVITIES

1. PLAN AND PLANT A GARDEN - Parent help is necessary for the actual planting of a school garden. At Monroe School some older students volunteered to dig up a 12 x 16 foot patch of ground for the first grade vegetable garden. Parents worked with the children to prepare the soil and to plant lettuce, radishes, beans, beets, carrots, cabbage and to transplant tomato plants, pepper plants, and onion sets.

2. VEGETABLE STORY - Have each child draw a picture and write a story about a favorite vegetable. The story could be written in the first person. For instance - My name is Betty Bean and I am growing in the Monroe School garden....

3. WILDFLOWER WALK - After viewing study prints or pictures in books of wild flowers take the children on a tour of the campus to look for common wildflowers. The children may all have wildflower booklets and each should color his own pictures. The film "Wildflowers of the Midwest," available from BAVI at the University of Wisconsin, is helpful.

4. A CLASS HERBARIUM - Collect, press and dry, mount and label specimens from the plants growing on the school grounds. One excellent help in identifying common plants is Wild Green Things in the City by Anne Ophelia Dowden.

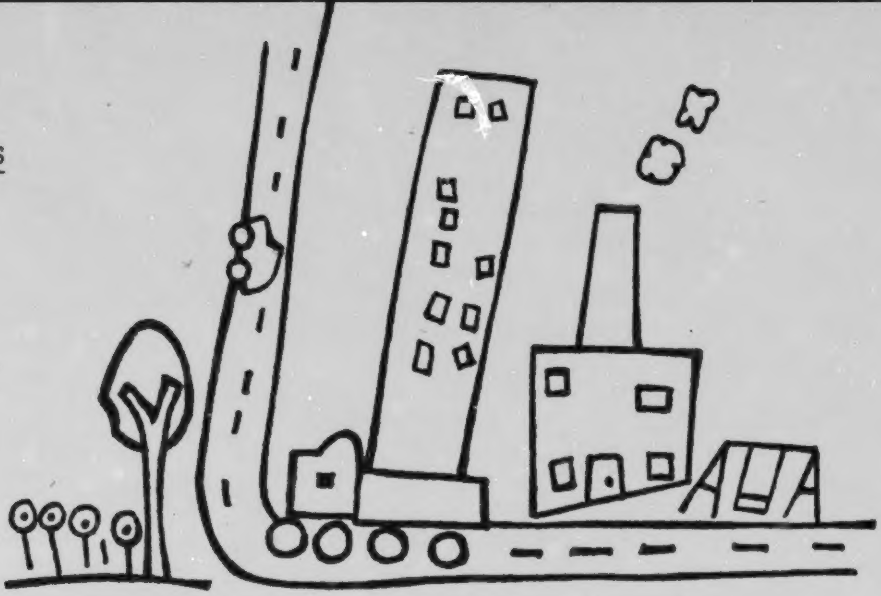
5. MOTHER'S DAY CARDS - Children may make Mother's Day cards by painting a picture of the wildflower on the cover and writing a poem on the inside.

RESOURCES

Resources appropriate for this unit are listed in the earlier unit titled "Plants in Fall."

POLLUTION PROBLEMS

Suggested time:
Three weeks



OBJECTIVES

1. Each child will be able to list at least three types of pollution.
2. Each child will create a poster contrasting beautiful and not beautiful.
3. Each child will be able to suggest one solution to a pollution problem.
4. Each child will write a five sentence story on one pollution problem.

LEARNING ACTIVITIES

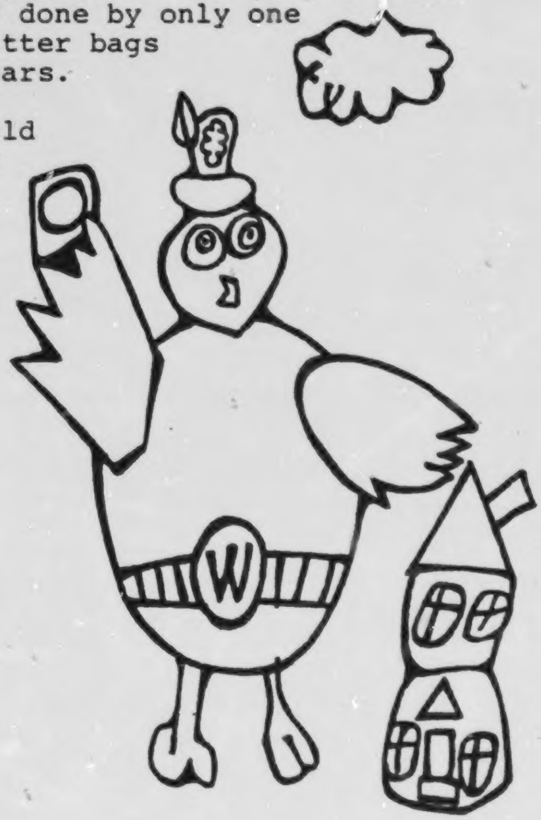
1. WHAT IS BEAUTIFUL? - Take a walk around the playground or neighborhood looking for things that are beautiful and pleasing to the senses. Also look for things that are not beautiful and not pleasing to the senses. Write a group story about the experience. The children could also plan and set up a "What is beautiful?" exhibit, bringing in beautiful things to share with the class.

   Contrasting photographs can also be used to show the beautiful and ugly sights of our environment. Have the children make up stories to go with the photographs and then share the stories with the class.

2. WE ALL NEED CLEAN WATER - Have class list ways that we use water. Discuss where your town gets its drinking water. The Ranger Rick reprint Water - What would we do without it? will help stimulate discussion. List ways that water is being polluted.

3. WE ALL NEED CLEAN AIR - Make a list of "dirty" words, words that describe pollution. Make a list of things that pollute the air. Teacher could read a list of different odors and children will respond by holding up their hand for pleasant odors and holding their nose for unpleasant odors. Burn something to see how the burning affects the air.

4. LITTER - Take class on a "pick up litter" walk around the schoolgrounds. Litter could be analyzed or put up on a "Litter Bug" bulletin board. Play a litterbug game in which each child finds something in his desk he no longer wants. One child drops his litter in a specific spot - the change is not too bad. Then have a few more children drop their litter in the same spot - then have everyone drop litter. This game shows the effect of large numbers of people doing things that have little effect if done by only one person. Pick up litter. Make litter bags with slogans on them for family cars.



5. POLLUTION WRITING - Have each child select one topic - air, water, or land pollution - and write a five sentence story about that problem. Some solutions to the problem should also be included in the story.

6. GIVE A HOOT, DON'T POLLUTE -

Woodsy Owl from the U. S. Forest Service has many helpful and FREE aides for the classroom teacher concerned with pollution.

By writing to the
U.S. Forest Service
633 Wisconsin Avenue
Milwaukee, Wisconsin 53203

you may receive copies of "The Ballad of Woodsy Owl," a catchy tune that students enjoy singing, along with Woodsy's list of 104 ways to stop pollution. The Forest Service will also provide two good worksheets; Woodsy's Campground Detective Game and Woodsy Owl's Coloring Game. "Don't Be A Dirty Bird" car litter bags and "Give a Hoot, Don't Pollute" buttons are also available and make good awards for pollution poster or writing contests.

RESOURCES

National Wildlife Federation
1442 16th Street NW
Washington, D.C. 20036

Single copies available free of:

Air Pollution - reprint from Ranger Rick.

Recycling - an educational reprint from Ranger Rick.

We All Need Clean Water - Wildlife Week 1977, ideas for teachers.

Scholastic Earth Corps. Environmental Awareness series Look Around You, Book I.

United States Environmental Protection Agency
Washington, D.C. 20460

A Better Place to Be - A guide to environmental learning in the classroom.

Environmental Exchange - a beginning - elementary classroom experiments in air, water, noise, solid waste, and pollution in general.

Fun With the Environment - student book with stories and games.

The Processing and Recovery of Jon Thomas - Cool Cat! The story of a cat going through a sanitary landfill operation. The story tells about some of our new ways of dealing with solid waste.

United States Forest Service, USDA
633 West Wisconsin Avenue
Milwaukee, Wisconsin 53203

FOREST SERVICE FILMS - a catalog of films available for free loan for educational purposes.

Student Model Project

Goal: The goal is to involve sixth graders with first graders in ecology orientated language arts activities. The sixth graders are not only teaching models but also students. Activities are to challenge both levels.

Procedure: Approximately one hour a month is set aside for the activities. If materials from home are needed, a pre-lesson discussion occurs. On the day of the lesson, each child is given the study sheet and/or directions for the activity. The students pairoff-one sixth grader with one first grader. The students are then on their own to discover and to complete the lesson.

Objectives: By means of a natural topic, the students will write at least one descriptive sentence.
By means of the study sheet questions, the students will be evaluated on their awareness of nature.
By means of partners, the students will create one motion poem per group.
By means of a sixth grade student, the first grade student will be able to write at least one 5-sentence story during the year.

Contents:

September	Colors in Nature
October	Shadows
November	Seeds
December	Recycling to make Christmas tree ornaments
January	Tracking Lesson
February	Snow Sculpture
March	Study of Wind/Kite Construction
April	Rain
May	Signs of Spring

NAME____________________

PARTNER_________________

SEPTEMBER

STUDY SHEET ON COLOR

1. Read and enjoy the attached poems.

2. On lined paper, write sentences about colors in nature. Use these colors and more.

   red
   yellow
   orange
   blue
   purple
   green
   brown
   black

   Sample: An apple is red. (or) Apples are red.

3. Using all of your sentences, each of you is to draw a picture.

4. Think of the colors that appear in spring. List them on lined paper. Do the same with summer, fall, and winter.

5. If time, write color poems.

6. If time, list all colors you can think of. For example: robin's egg blue is a color.

POETRY IN NATURE

What Is White?

White is a dove
And a lily of the valley
And a puddle of milk
Spilled in an alley
A ship's sail
A kite's tail
A wedding veil
Hailstones and
Halibut bones
And some people's
Telephones.
The hottest and most
blinding light
Is white
And breath is white
When you blow it out on a
frosty night.
White is the shining
absence of all color.
Then absence is white
Out of touch
Out of sight.

What Is Pink?

What is pink? A rose is pink
By the fountain's brink
What is red? A poppy's red
In its barley bed.
What is blue? The sky is blue
Where the clouds float thro'
What is white? A swan is white
Sailing in the light.
What is yellow? Pears are yellow
Rich and ripe and mellow.
What is green? The grass is green
With small flowers between.
What is violet? Clouds are violet
In the summer twilight.
What is orange? Why, an orange is
Just an orange!

by Chistina Georgina
Rossetti

What Is Black?

Black is the night
When there isn't a star
And you can't tell by
looking
Where you are.
Black is a pail of paving
tar.
Black is jet
And things you'd like to
forget.
Black is a smokestack
Black is a cat,
A leopard, a raven,
A high silk hat.
The sound of black is
"Boom! Boom! Boom!"
Echoing in
An empty room.
Black is kind.
It covers up.
The run-down street,
The broken cup.
Black is charcoal
And patio grill
The soot spots on
The window sill.
Black is a feeling
Hard to explain
Like suffering but
Without the pain.
Black is licorice
And patent leather shoes.
Black is the print
In the news.
Black is beauty
In its deepest form.
The darkest cloud
In a thunderstorm.
Think of what starlight
And lamplight would lack
Diamonds and fireflies
If they couldn't lean against
Black......

What Is Brown?

Brown is the color of a country road
Back of a turtle
Back of a toad.
Brown is cinnamon
And morning toast
And the good smell of
The Sunday roast.
Brown is the color of work
And the sound of a river,
Brown is bronze and a bow
And a quiver.
Brown is the house
On the edge of town
Where wind is tearing
The shingles down.
Brown is a freckle
Brown is a mole
Brown is the earth
When you dig a hole.
Brown is the hair
On many a head
Brown is chocolate
And gingerbread.
Brown is a feeling
You get inside
When wondering makes
Your mind grow wide.
Brown is a leather shoe
And a good glove
Brown is a comfortable
As love.
by Mary O'Neill

What Is Red?

Red is a sunset
Blazy and bright.
Red is feeling brave
With all your might.
Red is a sunburn
Spot on your nose,
Sometimes red
Is a red, red rose.
Red squiggles out
When you cut your hand.
Red is a brick and
A rubber band.
Red is a hotness
You get inside
When you're embarrassed
And want to hide.
Fire-cracker, fire-engine
Fire-flicker red-
And when you're angry
Red runs through your head.
Red is an Indian,
A Valentine heart,
The trimming on
A circus cart.
Red is a lipstick
Red is a shout,
Red is a signal
That says: "Watch out!"
Red is a great big
Rubber ball.
Red is the giantest
Color of all.
Red is a show-off
No doubt about it-
But can you imagine
Living without it?
by Mary O'Neill

What is Purple?

Time is purple
Just before night
When most people
Turn on the light.
But if you don't it's
A beautiful sight.
Asters are purple,
There's purple in ink,
Purple's more popular
Than you think...
It's sort of a great
Grandmother to pink.
There are purple shadows
And purple veils,
Some ladies purple
Their fingernails.
There's purple jam
And purple jell
And a purple bruise
Next day will tell
Where you landed
When you fell.
The purple feeling
Is rather put-out
The purple sound
Is the loveliest thing
It's a violet opening
In the spring.

NAME________________

PARTNER______________

OCTOBER

STUDY SHEET ON SHADOWS

Materials: umbrella, cut paper shapes, hula hoops, butcher paper, crayons.

1. Experimenting with shadows:
   Pick an object like the umbrella.
   By tracing shadows, how many different shadow shapes can you make using the same object?
   How large can you make it? How small?
   Take another object and do the same as above.

2. Mime time: Pretend your partner is a mirror, you move, he must follow your movements. Switch places.

3. Draw each other's shadow. Be monster people.

4. Draw 3 shadows of objects. Have another pair guess what they are.

5. Try shadow touching. Touch each other's shadow. Shake shadow hands.

6. Get inside a shadow.

7. Answer these:

   What causes a shadow?______________________________

   How can shadows be inside a building?__________________

   ____

   What is the biggest shadow?___________________________

8. If time, go indoors and make hand shadows.

NAME____________________

PARTNER_________________

NOVEMBER

Field Study (Seeds)

1. Do birds have trouble going from tree to tree?__________

____

2. How does a deer move from area to area?_________________

____

3. How about a seed? Can they run or fly?__________________

4. What happens when a seed gets ready to move to a new home?

____

5. How do we know that seeds move?_________________________

____

In Field

Find and observe	milkweed - cattail
Ways to travel	fluffy seed - burrs

NAME____________________

PARTNER________________

If I were a seed, I would ____________________________________

DECEMBER

Recycled Christmas Tree Ornaments

Pre Lesson: Bring materials from which ornaments can be made. We want to re-use materials such as bottle caps, old Christmas cards, small cans, lids, foil pans, styrofoam objects, etc.

Day of Lesson: No study sheet. Pair off and make ornaments. The completed ornaments will be hung on the IMC Christmas tree.

Decorate me!

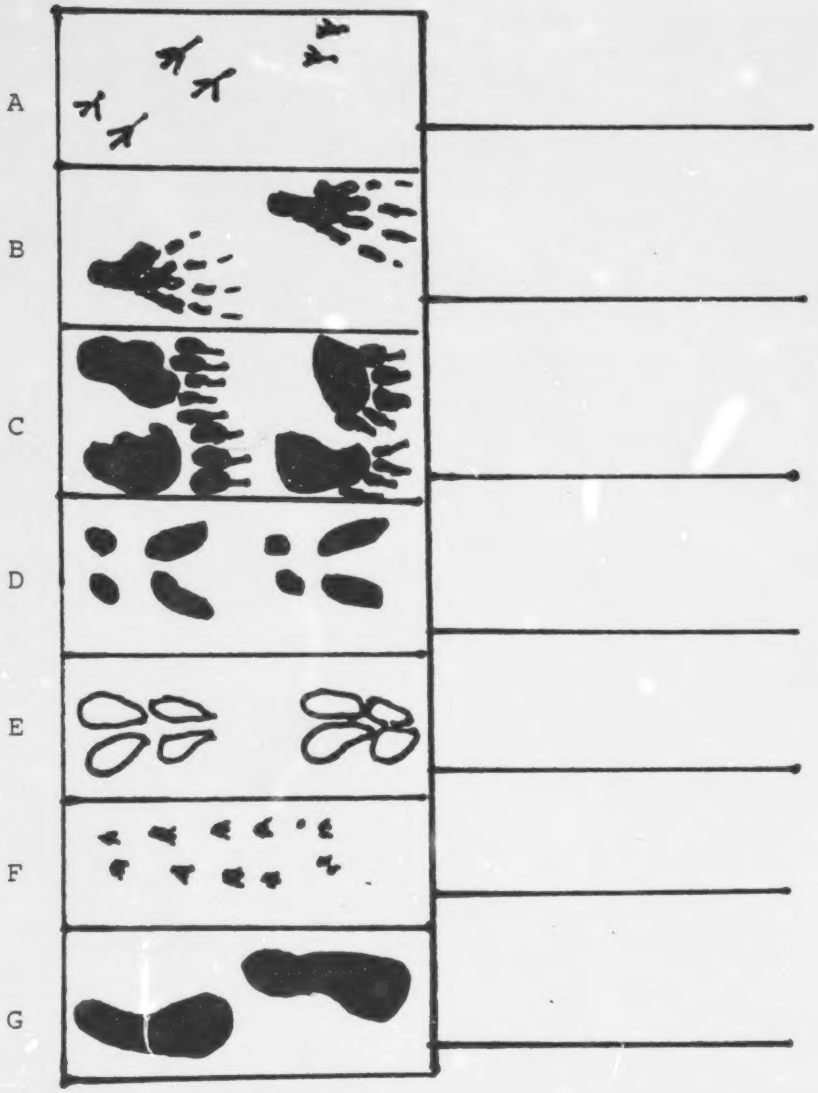
NAME________________________

PARTNER_____________________

JANUARY

STUDY SHEET ON SNOW TRACKING

1. Match track to animal who made it.



DEER

RACCOON

FIELD MOUSE

SONG BIRD

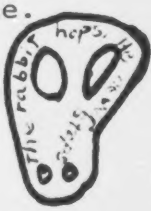
BEAR

RABBIT

PERSON

2. On the back sketch tracks that you have found outside.

3. Inside the building: cut a track out of paper, write a poem or descriptive sentence on it.



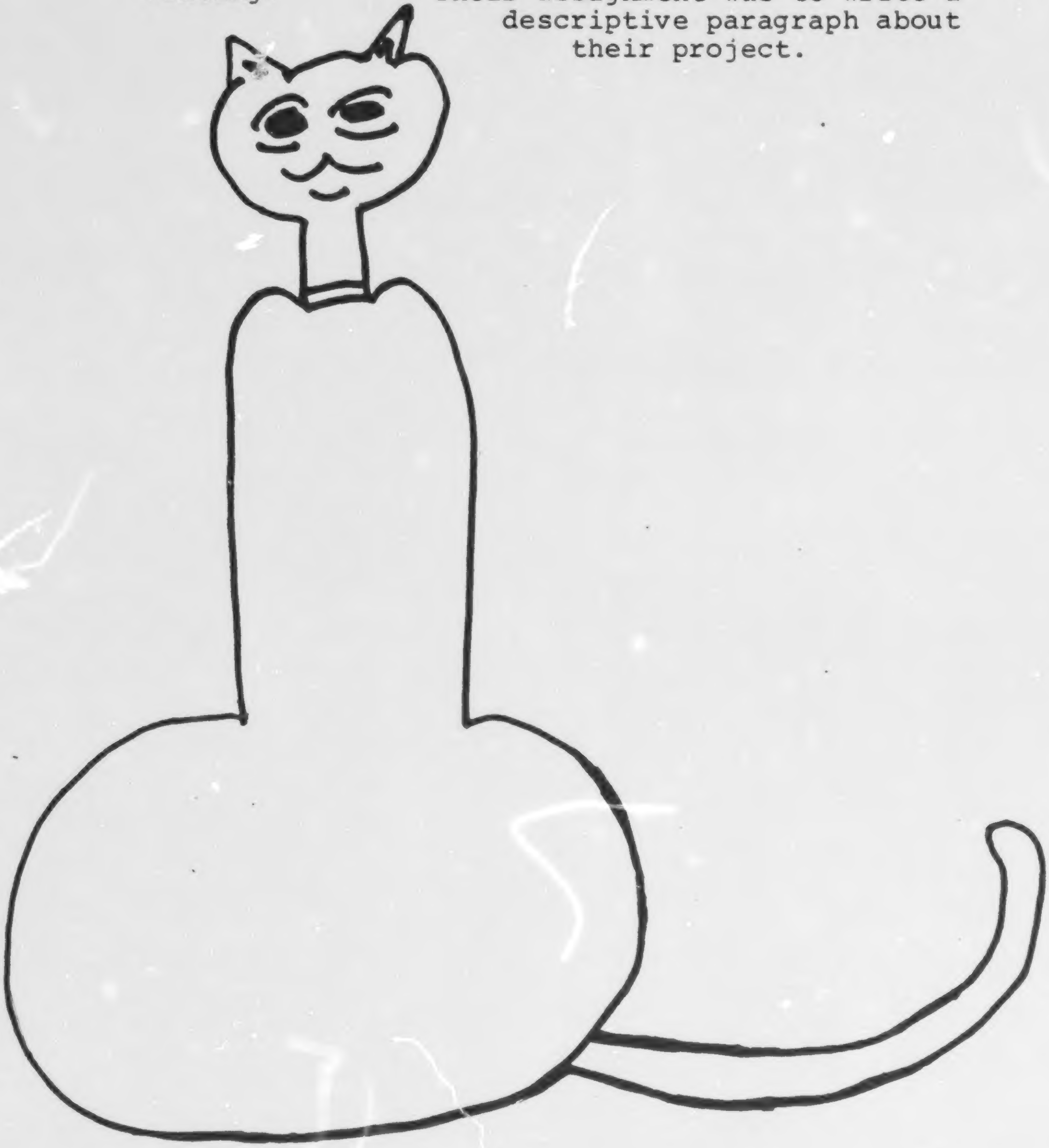
4. Make a mystery foot print. Have others guess it. Hint: Zoo animals or prehistoric.

FEBRUARY

Snow Sculpture

Pre-lesson: After pairing off, plans for the snow sculpture were drawn. Pairs were allowed to work in groups. No study sheet.

Lesson: The children worked on the playground completing their snow sculptures. Poster paint was available for accenting. After completing the outdoor activity, the students returned to the building for hot chocolate and writing. Their assignment was to write a descriptive paragraph about their project.



NAME____________________

PARTNER____________________

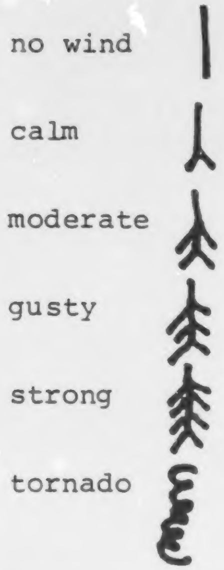
MARCH

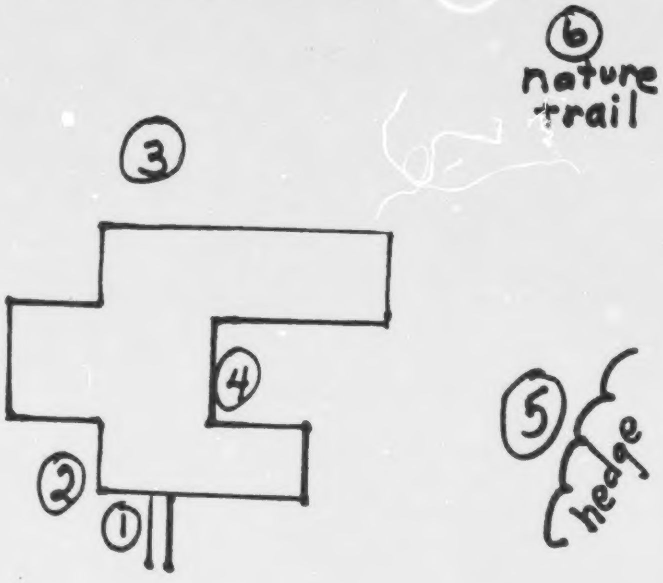
STUDY SHEET ON THE WIND/KITE CONSTRUCTION

1. What is Wind?____________________

2. How do you know there is wind?____________________

3. Visit the six stations on the school grounds and plot the wind speed.


no wind
calm
moderate
gusty
strong
tornado


6
nature trail
3
4
5
hedge
2
1

station 1		station 4	
station 2		station 5	
station 3		station 6	

4. Follow attached direction for kite construction. Directions from resource guide.

NAME ____________________

PARTNER _________________

APRIL

STUDY SHEET ON RAIN

1. Read these poems

Rain

The rain is raining all around
It falls on field and tree,
It rains on the umbrella here,
And on the ships at sea.
-Robert Louis Stevenson

Rain

Rain on the green grass
And rain on the tree,
And rain on the house-top,
But not upon me!

Raindrops

Raindrops are like silver crystals,
The kind children shoot from water pistols
They pelt down hard on cheeks and noses,
And hide small diamonds in petals or roses.

Rainstorms

Rainstorms are not liked by others,
But ducks and I are just like brothers;
We love to splish and splash for fun
In puddled holes where rain has run.

It Is Raining

It is raining.

Where would you like to be in the rain?
Where would you like to be?

I'd like to be on a city street,
where the rain comes down in a driving sheet,
where it wets the houses- roof and wall-
the wagons and horses and autos and all.
That's where I'd like to be in the rain,
that's where I'd like to be.

It is raining.

Where would you like to be in the rain?
Where would you like to be?

I'd like to be in a tall tree top,
where the rain comes dropping, drop, drop, drop,
around on every side;
where it wets the farmer, the barn, the pig,
the cow, the chickens both little and big;
where it batters and beats on a field of wheat
and makes the little birds hide.

It is raining.

Where would you like to be in the rain?
Where would you like to be?

It Is Raining (cont)

I'd like to be on a ship at
sea,
where everything's wet as
wet can be
and the waves are rolling
high,
where sailors are pulling
rope and singing,
and wind's in the rigging
and salt spray stinging
and round us sea gulls cry.
On dipping skimming ship at
sea--
that's where I' like to be
in the rain;
that's where I'd like to be!
-Lucy Sprague Mitchell

Rainy Day Rhymes

Splish-splash!
Flickery-flash!

Plish! Plim!
Let's go for a swim!

Plosh! Plush!
Let's walk in the slush!

Green! Clean!
What a wonderful sheen!
When it rains! rains!
On my window pane!

2. Make a list of descriptive words telling what a rainy day is like. ____

____

____

3. Select one of these poem starters and complete it. Or you may write your own poem.

I hear raindrops falling down

Pit-pat-pit-pat

Rain comes down in silver drops

On rainy days, I love to splash

Listen to the rain

NAME ____________________

PARTNER ____________________

MAY

STUDY SHEET ON SIGNS OF SPRING

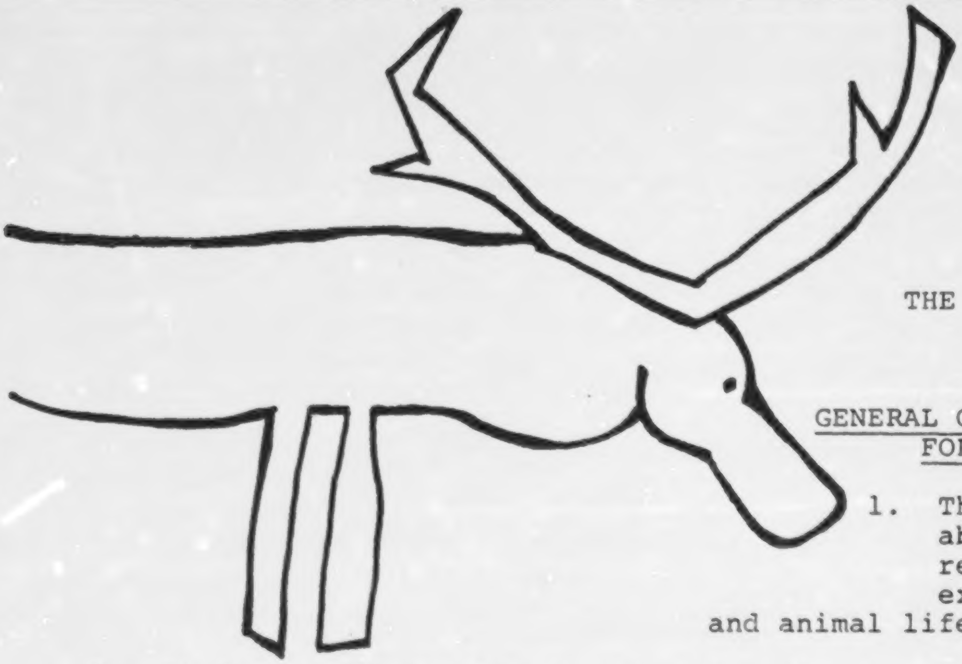
1. Take a field trip on the school grounds. List as many signs of spring as you can find. Be specific! The record is 40 items.

2. Write a story about the coming of spring. Illustrate it.
   Suggestions: The Return of Robert Robin
   Hi! I'm Gertrude Grass!
   Leafy Bark Interviewed
   I'm a Flower. Watch Me Grow!

SECOND & THIRD GRADE

TABLE OF CONTENTS

Forest....................182
Prairie....................193
Ponds & Wetlands....................209
Desert....................223
Jungle....................231
Pollution Problems....................239
Environmental Writing....................255
Field Trip Plans....................269
The School Courtyard....................271



THE FOREST

GENERAL OBJECTIVES FOR FOREST UNIT

1. The students will be able to recognize the relationships that exist between plant and animal life in the forest.
2. Students will be able to recognize five examples of the plant life that are representative of the forest area.
3. Students will be able to recognize ten examples of animal life representative of the forest.
4. Students will be able to recognize the non-living components of a forest.
5. Students will be able to relate the main aspects of an ecosystem.

Lesson #1 - WHAT IS AN ECOSYSTEM?

OBJECTIVE

The children will learn to recognize an ecosystem.

BACKGROUND

Ecology - the study of the interrelationships and interdependence of all living things and of how all living things affect each other.

Ecosystem - The combination of the living and the non-living and their interrelationships.

LEARNING ACTIVITIES

1. Show the class pictures of different ecosystems and of various plants and animals. "Ecology:Ecosystems" teaching pictures are good.
2. Discuss the pictures.
3. Name various eco-systems. Examples: forest, pond, desert, etc.

4. List non-living and living aspects of each ecosystem listed.

5. How are the living and non-living aspects interrelated?

6. How is each different aspect necessary to the existence of the others?

7. Where do plants and animals live?

8. Why do they live in a certain area?

Lesson #2 - THE FOREST ECOSYSTEM

OBJECTIVE

The children will learn to recognize the ecosystem called "the forest."

BACKGROUND

Crown - The top part of a tree or shrub, formed by the branches and leaves.

Canopy - The leafy crowns of the tallest trees.

Understory - Made up of young trees and smaller trees that grow to be only about 20 feet high, under the canopy.

Shrub layer - Woody plants and small trees.

Herb layer - Plants with non-woody stems such as wildflowers, ferns, mushrooms, mosses.

Forest Floor - Leaves and other plant and animal matter slowly decaying to become soil.

LEARNING ACTIVITIES

1. Show the sound filmstrip "The Woodland" from National Geographic. Follow-up with discussion.

2. What is an ecosystem?

3. Describe a forest environment.

4. Name the different layers of the forest.

5. Interdependence of plants and animals.

6. Ways plants and animals adapt to their environment.

7. Concept of the food chain.

8. The effect of people on the forest.

Lesson #3 - THE LAYERS OF THE FOREST

OBJECTIVE

The students will learn the five layers of the forest - canopy, understory, shrub layer, herb layer, and forest floor.

LEARNING ACTIVITIES

1. Show the filmstrip "Three Layers of Green," Madison School Forest.
2. Discuss film. Find out what plants and animals live in each layer of the forest and how they depend on the layer in which they live.

Lesson #4 - THE PARTS OF AN ECOSYSTEM

OBJECTIVE

The students will learn to recognize the six parts of an ecosystem.

BACKGROUND

Sun - All energy on the earth comes from the sun in the form of light energy.

Abiotic substances - non-living, they help living organisms grow and they replace natural waste.

Producers - Green plants, organisms that can make their own food by photosynthesis (using sunlight, air, and water).

Primary consumers - All animals that eat plants.

Secondary consumers - All animals that eat green plants and other animals.

Decomposers - break down the organic matter. Examples are bacteria, mushrooms, and other fungi.

LEARNING ACTIVITIES

1. Take a field trip to a local forest area. Encourage students to use their senses to perceive the forest.
2. Paragraph writing - Have each student write a description of what he perceived through his senses on the field trip to the forest. Write five short paragraphs based on the experience of the forest field trip.
3. Find each element of the ecosystem while on the field trip. Write a description of one element of the forest ecosystem.

Lesson #5 - TREE SHAPES

OBJECTIVE

The students will be able to describe the difference in the shape of two trees - one evergreen and the other deciduous

LEARNING ACTIVITIES

1. Discuss the terms "evergreen" and "deciduous."
2. Find two trees on the schoolgrounds or in the neighborhood that have different shapes - one evergreen and the other deciduous.
   a. Look at the tree from a distance.
   b. With your finger trace (in the air) the shape of the tree.
   c. Describe the shape of the tree.
   d. Describe how the branches go out from the trunk of the tree - up, down, out?
   e. What else do you notice about the tree?
3. Writing exercise: Make a sketch of the tree using words.

Lesson #6 - DECIDUOUS AND CONIFEROUS TREES

OBJECTIVE

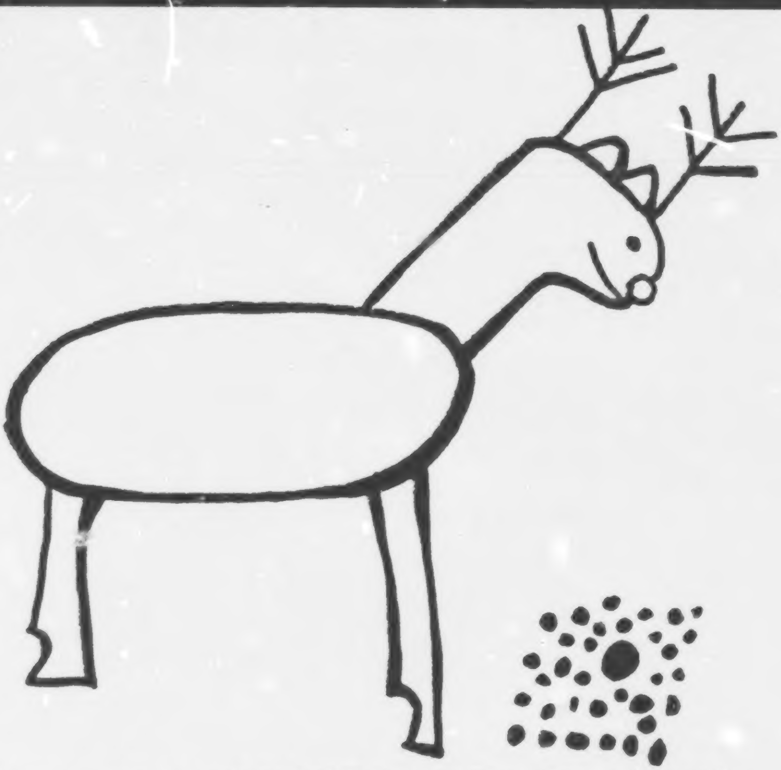
The students will be able to recognize the difference between conifers and deciduous trees.

BACKGROUND

Deciduous - leaves fall off annually, warm summers and cold winter, broadleafed, hardwood, flowers and fruit.

LEARNING ACTIVITIES

1. Plant pine cones
   a. To open the cones, put a group of each kind in a place with a cool temperature and a similar group near the heater. Which group opens first?
2. Plant seeds.
3. Plant Oaks
   a. Collect acorns that have fallen off a tree or shake them off.
   b. Put a mixture of two parts of soil to one part of sand in a jar.
   c. Plant the acorns in it.
   d. Keep the soil mixture moist.
   e. Cover the outside of the jar with foil.
   f. Observe changes.



4. Questions:
   a. Look at the leaves on a tree and describe their color. Are all the leaves always the same color?
   b. Find needles and tell about the differences.
   c. Find out where decidous and coniferous trees grow.

Lesson #7 - CLASSIFYING PLANTS AND ANIMALS

OBJECTIVE

Students will know the classification systems of the various forms of plant and animal life in the forest ecosystem by identifying at least 50% of the plant and animal life found in this ecosystem.

LEARNING ACTIVITIES

1. Make a list of plants and animals.

2. Place words from list on chart:

Mammals	Birds	Plants	Insects

Lesson #8 - ADOPT A TREE

OBJECTIVE

The students will increase their knowledge about trees by being responsible for a tree throughout the year.

LEARNING ACTIVITIES

1. PLANT TREES - Seedlings are available free through the county forester.

2. Keep a written record of a tree, noting:

    a. The type of tree.
    b. Seasonal changes in leaves and bark.
    c. Do trees grow at the same rate all year?
    d. Does the tree's life processes stop in the winter?
    e. What is the weakest part of a tree?
    f. Are there any animals or plants living on the tree?
    g. What kind of flowers or fruit are produced by the tree?

Lesson #9 - THE APPLE TREE

OBJECTIVES

1. To develop an interest in the vital and interrelated activities of an ecological system.

2. To familiarize viewers with the parts of a tree and some of the creatures that live in and around it.

LEARNING ACTIVITIES

1. Show filmstrip "The Apple Tree" from National Geographic Plants and Animals Series. Discussion questions:

    a. What are the main parts of an apple tree?
    b. Does a tree make food for itself?
    c. What changes occur in the apple tree from season to season?
    d. How do these changes affect creatures living in and around the tree?
    e. Why is photosynthesis important for both animals and people?
    f. Why do apples and leaves change color? Why do they fall?

2. Writing activities.

    a. Write a report describing how leaves help purify the air we breathe.
    b. Write a report explaining how a tree's growth rings reveal the plant's age and what can be learned about the plant's past by studying the rings.
    c. Write poems about trees.

Lesson #10 - INTERRELATIONSHIPS OF PLANTS

OBJECTIVE

The students will recognize the interrelationships among plants by setting up a woodlands terrarium.

LEARNING ACTIVITIES

A terrarium is a covered transparent container planted with a miniature community of plants. It needs little attention and is quite easy to make.

Put a half-inch layer of sand or a mixture of both in the bottom of your container for drainage. (Anything from a peanut butter jar to a plastic shoebox will do for your container.) Add one inch of moist soil - preferable one-third soil, one-third sand, and one-third peat moss. Make holes in the soil, gently insert the roots of plants and press the soil around them. A carpet of moss will keep the soil from spattering. Sprinkle carefully with water and cover almost all the way with glass or plastic. Adjust the lid so that a little, but not much, moisture collects on it. Water it only when it appears dry. Keep the terrarium out of direct sunlight because it will overheat.

Appropriate plants for a woodland terrarium are mosses and fungi, ferns, small house plants, cutting of ivy, begonia, and colors. In early spring plant a terrarium with any young plants that are just beginning to appear - young violet plants, wild ginger, small weeds or moss.

Lesson #11 - PHOTOSYNTHESIS

OBJECTIVE

The students will be able to explain photosynthesis.

LEARNING ACTIVITIES

1. PLANT EXPERIMENT - Put little pieces of tin foil on the leaves of a flourishing plant and attach the foil pieces with hair clips. Leave the plant in the window that receives direct sunlight for many days. Take off the pins and bits of foil and notice the results.

   The sun produced the green coloring, chlorophyll, in plants. When the sun is blocked, the leaves lose or lighten their color.

   Discussion questions:
   a. What is photosynthesis?
   b. Why is it necessary?
   c. Do animals use this process to obtain food?
   d. What happens to oxygen that is released from the plants during photosynthesis?

2. Writing activities - Hand out a worksheet with the following questions:

   WHAT IS GREEN?
   Develop your own color images from the outdoor environment.
   Green things you can see.
   What are the sounds of green?

How does green feel?
What are the tastes of green?
How does green smell?
Green is the feeling of.........

Lesson #12 - LIFE ON AN OLD LOG

OBJECTIVE

The students will be able to recognize that one ecosystem can survive within a larger ecosystem.

LEARNING ACTIVITIES

1. Bring an old decaying log into the class room and ask the children to carefully observe what is going on inside and on the log. Be sure to use a log that has some types of fungi on it.

2. Writing activity - Have each child write a paragraph about his/her observations. They should answer the question of what else grows on trees besides leaves.

Lesson #13 - OBSERVING A NATURAL PHENOMENA

OBJECTIVE

The students will learn to make and write accurate observations of natural phenomena.

LEARNING ACTIVITIES

1. Observe an approaching storm.

   a. describe the clouds
   b. describe the changes in the clouds
   c. describe the movement of air

2. Describing the storm:

   a. how the rain starts
   b. action of rain or snow on ground, roofs, trees
   c. wind
   d. thunder and lightning
   e. trees - effect of storm
   f. duration of storm
   g. damage

Lesson #14 - WOODLAND DISCOVERIES

OBJECTIVES

1. To interest the children in discovering a variety of plants and animals that live in the woods.
2. To explain how some plants and animals are adapted to live in the woods and how some of them help to enrich the soil.
3. To emphasize that the woods look different in each season of the year.

LEARNING ACTIVITIES

1. Seasonal visits to a woods - park or outdoor lab.
2. Filmstrip on the "The Woods."

RESOURCES - BOOKS

574 A Adrain, Mary, *A Day and a Night in a Forest*, Hastings House, 1967.

634.9 B Blough, Glenn, *Lookout for the Forest*, Whittlesey, 1955.

574 B Buck, Margaret Waring, *In Woods and Fields*, Abingdon-cokesbury, 1950.

574 C Coe, Geoffrey, *The Wonders of Nature*, Grosset & Dunlap, 1966.

574.5 H Hungerford, Harold R., *Ecology, The Circle of Life*, Children's Press, 1971.

581 M May, Julian, *Why Plants are Green Instead of Pink*, Creative Educational Society, 1970.

574 P Pringle, Laurence, *Discovering the Outdoors*, Natural History Press, 1969.

574.5 P Pringle, Laurence, *Ecology - Science of Survival*, Macmillan, 1971

574.5 R Raskin, Edith, *The Pyramid of Living Things*, McGraw, 1967.

574.5 R Ross, Wilda S., *Who Lives in this Log?*, Coward, McCann & Geoghegan, 1971.

582 R Rush, Hanniford, *The Beginning Knowledge Book of Backyard Trees*, Macmillan, 1964.

574.5 S Schlichting, Harold E, Jr., *Ecology, the Study of Environment*, Steck-Vaughn Co., 1971.

574 S Selsam, Millicent E., *See Through the Forest*, Harper, 1956.

574 S Snedigar, Robert, *Life in the Forest*, Encyclopedia Britannica, 1962.

582 S Sullivan, George, *Trees*, Follett, 1970.

A-V Materials

Study Prints

"Ecology: Ecosystems," teaching pictures, Elgin, Ill., David C. Cook Publishing Co., 1973.

Filmstrips

"The Woodland," National Geographic Society.

KIT 582 T "Three Layers of Green in the Madison School Forest," Visual Education Consultants.

A WOODLAND ACTIVITY BOOKLET

to be used by students on field trips.

Each one of the following activities was listed on a separate page with room for the student's writing and art work. It is helpful for each student to have his own clipboard and crayons or colored pencils.

1. There are many animals in the woods. Most are hidden. Some live under rocks or in dead logs. See if you can find one and draw a picture of it below. Show how it looks from the top and from the side. See if you can find the name of this animal in a book.

2. When you walk in the woods you discover that there are many things that feel very different. Some feel very smooth and some feel the opposite. They are ____________________. Use this page to make a rubbing of something rough and something smooth.

3. Most seeds must be able to travel to new places where there are soil and water for them to grow. Draw a picture showing how a seed in the woods might travel.

4. Find two objects in the woods that do not look alike but are the same in some way. Tell how they are alike and how they are different.

5. All living things in this world depend on other things in order to live. Make a rubbing of a leaf. This leaf needs ______________________________ in order to grow. What living things need this leaf?

THE PRAIRIE

GENERAL OBJECTIVES

1. Students will be able to name common plant and animal life found on the prairie.
2. Students will study the living components of a prairie so as to discover that these things are interdependent.
3. Students will study the relationships that exist between non-living and living components of the Prairie.
4. Students will investigate how plants and animals of the prairie adapt to meet the requirements of their environment.
5. Students will study the climate of the prairie as a shaping factor for existing plant and animal life.

INTRODUCTION TO THE PRAIRIE - 2 periods

OBJECTIVE

To present the concept of and acquaint and develop the student interest in the prairie.

BACKGROUND

Prairie - a natural grassland.

environment - the surrounding things, conditions in which something lives.

interdependence - to be dependent on each other.

adaptation - changing to fit different conditions.

food chain - change of events linked together by their food relationships.

LEARNING ACTIVITIES

1. Display and discuss the chart picture of a prairie, have students name living/non-living things they see.

2. Show filmstrip, "The Prairie." In discussion, following the showing of the filmstrip, include the following:

   a. General description of the prairie environment.
   b. Interdependence of living things (plants-insects,prairie-dog-buffalo, etc.)
   c. Keen eyesight and speed (senses) of animals on the prairie (pronghorn, jackrabbit) for survival.
   d. The need for existence of predators and scavengers on the prairie.

3. Talk about life on the prairie before the days of the pioneer, and the changes to the prairie as a result of man's coming. Have children in groups make large drawings depicting the
   a. early prairie
   b. prairie as man came
   c. prairie today
   Compose a story to accompany each drawing.

4. Complete Prairie worksheet together.

RESOURCES - Materials

Allen, Durwald, The Life of Prairies and Plains.

Raskin, Edith, Pyramid of Living Things, Ch. 19-23.

Filmstrip, "The Prairie," Exploring Ecology - National Geographic, and accompanting worksheet.

Chart picture of a prairie.

PRAIRIE PLANT LIFE - 2 periods

OBJECTIVE

To have children recognize and identify common plant life of the prairie. (Know 4 specific kinds.)

BACKGROUND

In a prairie area which is a relatively native state, there is a large variety of grasses and flowers, many of which most people have never noticed or identified. Fire is not always a bad thing in a natural situation. Fires were a common occurring phenomenon before man stepped in and stopped them. Lack of fires in our environment is often a handicap to natural areas. The process of a new and different group of plant species invading and taking over an area following a burn is called succession.

LEARNING ACTIVITIES

1. Display laminated posters of common plant life of the prairie. Name and discuss each of the posters, pointing out physical features of each (touch).

2. Discuss factors that may promote or hinder plant life on the prairie.

3. Visit a prairie. Take pictures of common prairie plants. Have children write a story about the picture of the plant they took while visiting the prairie. Develop this into a slide show presentation.

4. Talk about prairie grasses. Show pictures of those common to the Janesville area (Indian grass, big/little bluestem). Include in discussion the importance of the root system, the amount of water received as a determining factor in its growth.

RESOURCES - Materials

Crowell and Douden, Wild Things in the City.

Wild Flowers of Wisconsin, DNR pamphlet.

Laminated posters of common prairie plants - teacher made.

MORE ABOUT PRAIRIE PLANT LIFE

OBJECTIVE

To further discuss plant life specific to the prairie. To become responsible for monitoring prairie plant growth.

BACKGROUND

field - a biome sometimes called a grassland.

biome - a distinctive community of plants and animals supported by a physical environment.

photosynthesis - Chlorophyll, the green substance in plants absorbs energy from the sun. The plant uses this energy to combine carbon dioxide from the air with minerals and water from the soil.

parasite - living on or inside the body of the plant.

LEARNING ACTIVITIES

1. Review previous discussion of plants common to the field (prairie). Emphasize factors important to good plant growth.
2. Show filmstrip, "In the Field," by Robert Anderson (Hubbard Scientific Co.). Discuss interdependence between plant and animal life of the prairie. Review concept growth of food chain as it applies to plant life. Have children write about the relationship between plant growth, animal life, and nature's ways.
3. Have children each choose and plant a number of prairie seeds. Have children become responsible for monitoring and caring for their plant's growth. Each can begin a daily log of the plant's growth, recording two or more sentences daily. Report their results to the class weekly.

RESOURCES - Materials

Courtenay & Zimmerman, Wild Flowers and Weeds.

Filmstrip, "In the Field," Robert Anderson.

Prairie seed available from:
1. Midwest Wildflower, Box 64, Rockton, Ill. 61072.
2. Prairie Ridge Nursery, R.R. #2, Overland Road, Mt. Horeb, WI 53572.

Potting soil, planter, and markers.

PRAIRIE ANIMAL LIFE - 3 periods

OBJECTIVE

To acquaint students with common animal life of a prairie.

BACKGROUND

burrow - a hole dug in the ground.

predator - one who preys upon other animals.

prey - an animal hunted or killed for food by another animal.

adaptation - changing to fit different conditions.

camouflage - the protective disguise; to blend in with one's surroundings.

More about the prairie: The tendency of prey animals to stay together in groups provides protection in the open country of the prairie. Pronghorns, prairie dogs, and bison associate in groups. This allows the animals to warn each other of danger and make it more difficult for predators to single out a victim.

LEARNING ACTIVITIES

1. Show the following filmstrips:

   "The American Buffalo"
   "The Mountain Lion"
   "Coyotes and other Prairie Animals"
   "Prairie Dogs"

2. Discuss animal life on the prairie. Include in discussion, various animal adaptations for survival on the prairie, interdependence between species, habits and predators of.

3. Have each child choose an animal of the prairie to investigate and write about it. Make construction paper animals and place animals and stories in mural form.

4. Have children write a riddle about their chosen animal for classmates to guess.

5. Have children bring in pictures of prairie animals to help begin a bulletin board for Prairie Animal News. Have children write one/two facts sentence about their animal to place below their pictures. Change the information periodically to keep up interest.

6. Develop student Prairie Animal publication, prairie puzzles, unusual animals. Children can work in groups or singularly, Include on their publication drawing of the animal, a paragraph of the animal's life style, an unusual trait (ex. badger - fast digger, pronghorn - fastest runner) or riddles about them. Publish for class or parents.

PRAIRIE BIRDS AND THEIR HABITS - 1 period

OBJECTIVE

To acquaint students with prairie inhabiting birds and their habits (life styles).

BACKGROUND

There are many types of birds which nest in our grasslands. Each of these birds require just a little bit different type of place to nest, even though they may be nesting in the same tree. Each bird builds it's nest of a different material, lays different size eggs, lays different colored eggs. Each type of bird will react differently when disturbed from the nest.

LEARNING ACTIVITIES

1. Present filmstrip, "Birds of the Prairie."
2. Discuss the filmstrip, noting specific birds common to the prairie, how they adapt for survival, common predators of each. Include also description of the various bird habitats. Include in discussion the interdependence between birds of the prairie and the animal life.
3. Have the children create a poem on a bird of the prairie. Write the poem on a construction paper shape of the bird they wrote about. Display poems on bulletin board.
4. Have children create a two line poem about how a bird of the prairie moves. Stressing alliterations (ex: flighty falcon). Use as motivation the poem: Snake Sounds by Jean Condersoule. "A slippery, slithery, slicely nake, makes the kind of a sound a snake should make. When he slithers and slides along the ground, he makes a slippery slithery sound!"
5. Read for enrichment the book, Prairie Chicken, to the children.

RESOURCES - Materials

Jackson, Genevieve Vaughan, The American Prairie Chicken.

Filmstrip, "Birds of the Prairie," Walt Disney, Vanishing Prairie Series.

Filmstrip projector, pencil, paper, scissors, glue, colored paper.

SEASONAL CHANGES ON THE PRAIRIE - 1 period

OBJECTIVE

To make children aware of nature's seasonal changes on the prairie and how they affect existing plant and animal life on the prairie.

LEARNING ACTIVITIES

1. Distribute copies of the booklet, Vanishing Prairie, Walt Disney, to the children. Read through the booklet with the children, discussing each section.
2. Note the section in the booklet on reasons for the prairie vanishing (both man and natural factors, pp. 4 - 8). Using this as a basis for discussion, have the children write about their reactions to this.
3. Have children complete worksheet evaluation developed from booklet.
4. Have students in groups create a puppet play about the prairie. Choose a particular season as the basis for the beginning. Include the relationships between plants, animals, and nature in the presentation.
5. Have children create a story about the prairie in which each child adds on one sentence.

RESOURCES - Materials

Vanishing Prairie, Walt Disney True Life Adventure Series.

Evaluation worksheet.

Puppet materials: sack, socks, buttons, yarn, construction paper, glue, scissors, crayons.

MORE PLANT AND ANIMAL LIFE - 1 period

OBJECTIVE

To increase student understanding of plants and animal life of the prairie.

LEARNING ACTIVITIES

1. Write a fiction story about your animal, telling of some exciting event that could happen to that animal, yet keeping the animal in its natural surroundings. Make it only do the kinds of things this animal ordinarily does.
2. Write about the ecosystem in which an animal lives and show how the animal is well suited to this particular ecosystem. Make a chart to accompany.

3. Make a study of animal homes that can be found in the prairie. Make charts to accompany different one chosen.

4. Find out and write about how many animals have disappeared or are endangered on the prairie. Include also those that have become more scarce as the prairie has been swallowed up by cities and farms.

RESOURCES - Materials

Costello, David F., The Prairie World, Thomas Crowell, 1969.

Werner, Jane, & Staff of Walt Disney Studio, Vanishing Prairie, Simon and Schuster, 1955.

THE PRAIRIE AS AN ECOSYSTEM - 1 period

OBJECTIVE

To evaluate student understanding of vocabulary words presented in the study of the prairie, and to assure student understanding of the prairie as an ecosystem.

LEARNING ACTIVITIES

1. Review discussion of prairie plant and animal life. Have children describe to the class members a plant, or animal of the prairie without using the proper name. See if members can indentify from description given.

2. Have children complete "Ecology Match" worksheet.

3. Develop a student production, "Problems of Survival on the Prairie," or "Our Vanishing Prairie." Use as a play. (Film it or do live for parents.)

4. Develop a prairie newssheet (1-2 pages) to go out regularly compiling student prairie activities, stories, poems, pictures, etc.

RESOURCES - Materials

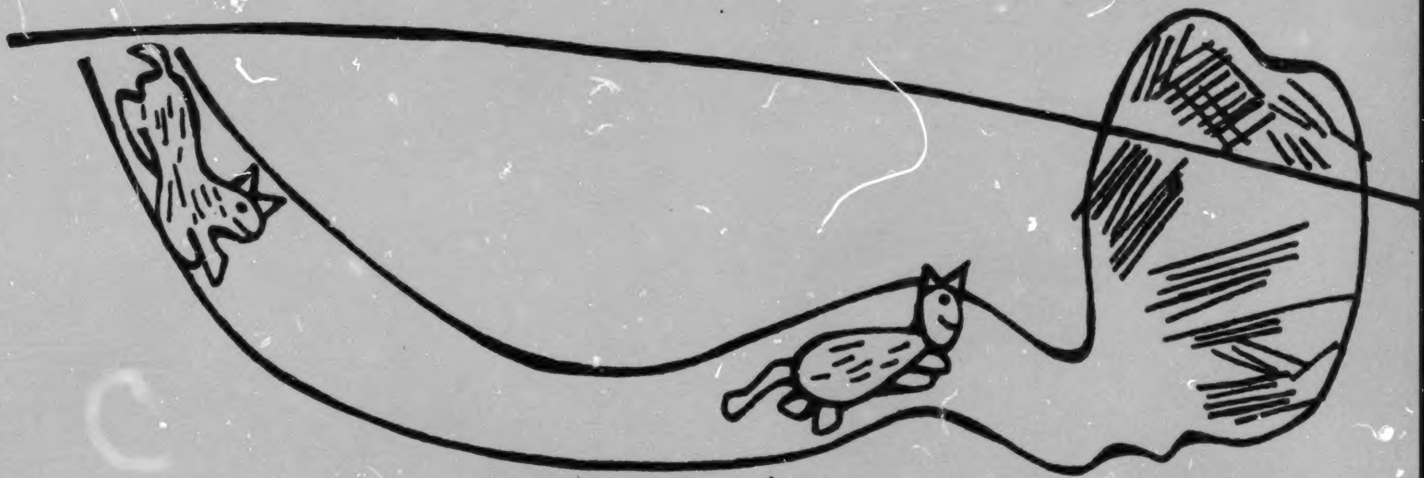
Student newspaper resources.

RESOURCES - BOOKS

	Boerner, Alfred L., *Prairie Propagation Handbook*.
582 D	Dawden, Anne O., *Wild Green Things in the City: A Book of Weeds*, Thomas C. Crowell, 1973.
Kur	Kurelek, William, *A Prairie Boy's Summer*, Boston, Houghton Mifflin Company, 1975.
Kur	Kurelek, William, *A Prairie Boy's Winter*, Boston, Houghton Mifflin Company, 1973.
574.5 RO	Raskin, Edith, *Pyramid of Living Things*.
811 S	Schweitzer, Byrd Baylor, *Amigo*, New York, The MacMillan Co., 1963.
582 K	Torkel, Korling, Prarie - *Swell & Swale*, Dundee, Ill., 1972.
	Vaughan, Genevieve, *The American Prairie Chicken*.
574 W	Watson, Jane Werner, *Vanishing Prairie; Walt Disney*, Syracuse, N.Y., L.W. Singer Company, Inc., 1958

A-V Materials

"Life in the Grassland," film, 7 minutes, color, produced by Walt Disney. Available fro BAVI: film #11,3255.



THE PRAIRIE: HOW IT CHANGED

by Lytton J. Musselman
UW - Rock Botanist

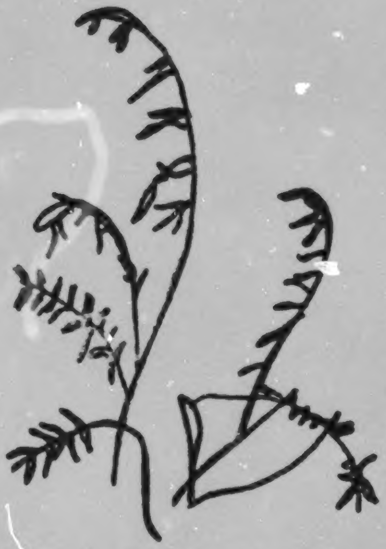
The beauty of the prairies which greeted early settlers of the Janesville area must be left largely to speculation. However, descriptions given by the government surveyors who laid out townships in southern Wisconsin in the early 1830's, and other early records give a clue to the pristine vegetation of the Janesville area.

Extensive woodlands, except along portions of the Rock and Sugar rivers, were non-existent. Most of the country was similar to the following descriptions given in an 1856 history of Rock County by Willard and Guernsey:

"The prominent features of the state are the prairies, destitute of tree or shrub, and only covered by a luxuriant growth of grass. The prairies are much smaller than in other states, consequently much more feasible for settlement, from the proximity of timber. The oak openings seem to be much like the prairies in character of soil, only not as rich.

"The trees are so scattering that men frequently make farms without feeling - only girdling them - besides the openings are annually burnt over, like the prairies. This county is about equally divided between prairie and oak openings, and more uniformly rich, arable county of land, is not to be found in the state. There is hardly an acre of waste land in the entire county.

"On Rock River is a belt of timber and openings. Groves are interspersed through the prairie at intervals, besides which, points of openings just into the prairie at different places, thus rendering the outlines of the prairie unequal, and at the same time bringing wood and timber within a short distance of all its settlers; in fact, few men on the prairie live more than three miles from timber."



Indian Grass

Quoting again from Willard and Guernsey, who describe the sights observed by settlers in 1835:"...they went down the river to the present location of Janesville, and after prospecting about during the day, they encamped on the point of the high bluff, on the Racine road, a little north of the present residence of Mr. Levi St. John. From this point Rock prairie is seen stretching away in the distance to the east and south, until bounded by the horizon." The view, to them was enchanting.

"They saw before them an ocean of waving grass and blooming flowers, and realized the idea of having found the real 'Cannan' - the real Paradise of the world! After dispatching a hasty 'camp breakfast,' they strolled over to the beautiful grove about half a mile east of their encampment, and finding there the late headquarters of the illustrious Black Hawk chief and his army, but just deserted, they named the grove 'Black Hawk,' which cognomen it still bears.

"Mount Zion, in the east part of the town, is a beautiful elevation, commanding a view of the country for many miles around. No place in the entire west, probably, presents a more enchanting prospect to the stranger than this. To the west, as a traveler ascends the mount, along the old Territorial Road from Chicago and Milwaukee to Madison, which passes over it, a view of Janesville city bursts upon his vision, with the country beyond; to the south; a broad expanse of prairie spreads out, bounded only by the horizon. North of this and extending east and west as far as the eye can reach, is a long belt of timber. East is an extension of the same Rock prairie country, a distance of some eight miles, to where it is bounded by the extensive oak openings of Walworth County."

The fertility of the prairie soil was unsurpassed. Some early settlers were skeptical about cultivating the priaire, thinking that any land which did not support the growth of trees must be poor. This idea soon vanished, however, as acre after acre of prairie sod was turned. Breaking the sod was no easy task as the following extract from the Rock of Beloit published in 1936 shows:

"Because the virgin prairie was not easy to 'break' and because there was so little time to do it and too few plows and oxen, the plow was first put to many acres by roving prairie-breakers who roamed the new country finding work where they could. They were "Hoosiers" from Indiana or "Jobbers" from

Southern Illinois. They traveled by prairie schooner, driving oxen and hauling the great prairie plows which cut 18 to 22 inch furrows. They charged $5 an acre for breaking the new land to the plow. They were nomads and they moved on when the job was done or the settler had no more money to pay."

Why was the vegetation of this portion of the state predominantly prairie? Why weren't more woods present? Reference already has been made to the peculiar scattered groves of trees, mainly oaks, which the settlers observed on the prairie. These groves were known locally as "oak openings," so called because they presented an open park-like appearance of widely spaced trees in contrast to a densely wooded area.

Apparently the prairie was maintained in part by the frequent occurrences of fires started by Indians to drive game. Although the origin and maintenance of the prairie and oak openings is a matter not entirely agreed upon by scientists, it appears that the fire helped support the prairie vegetation by limiting the growth of the fire-susceptible woody plants. The few woody plants which could survive the prairie fires, noteably burr oak, formed the oak openings. Some scientists believe that the oak openings are vestiges of a once widespread forest which receded in periods of drought. Contrariwise, the prairie expanded during those periods of drought.

With the advent of the white man the prairie fires ceased, thus allowing the growth of woody plants. It should come as no surprise, then, that there are more acres of woodland in the Janesville area now than at the time of settlement.

Where does one go to see prairie in 1970? Unfortunately, all that remains are bits and pieces of the once verdant grasslands. Most prairie remnants are preserved along railroad rights-of way on marginal agricultural land. The gravel hills north of Janesville along Rock River, with soil too thin to plow, support some prairie species. Larger prairie remnants are found in "mowing meadows"--land too wet to farm - which is kept in reserve for a crop of native hay. Most railroads unwittingly maintain prairies by burning or cutting rights-of-way. Unfortunately, with the advant of herbicides for "weed" control, prairie species may soon go the way of the passenger train.

Where will tomorrow's student go to find a prairie, even if very small, if gravel quarrying, urbanization, and herbicides take their toll? The Rock prairie south of Janesville once stretched almost across the county and was from 6 to 18 miles wide, of which no: one acre was not perserved. Of the several hundred acres which covered the county, less than 50 acres currently are preserved.

EVALUATION

OBJECTIVES

To evaluate the student's understanding of prairie information.

LEARNING ACTIVITIES

1. Review previous discussion of living/non-living components of the prairie, climate, inter-relationships between living things on the prairie.
2. Show film "Life in Grasslands," as culminating activity.
3. Read for enrichment, The Prairie, How It Changed, by Lytton J. Musselman.
4. Give final evaluation sheet to children to be completed.

RESOURCES - Materials

Teacher written evaluation.

"The Prairie: How It Changed," by Lytton J. Musselman, dittoed sheet.

ECOLOGY MATCH

2 burrow

7 environment

5 predator

3 fertilize

1 interdependence

6 prairie

8 food chain

4 adaptation

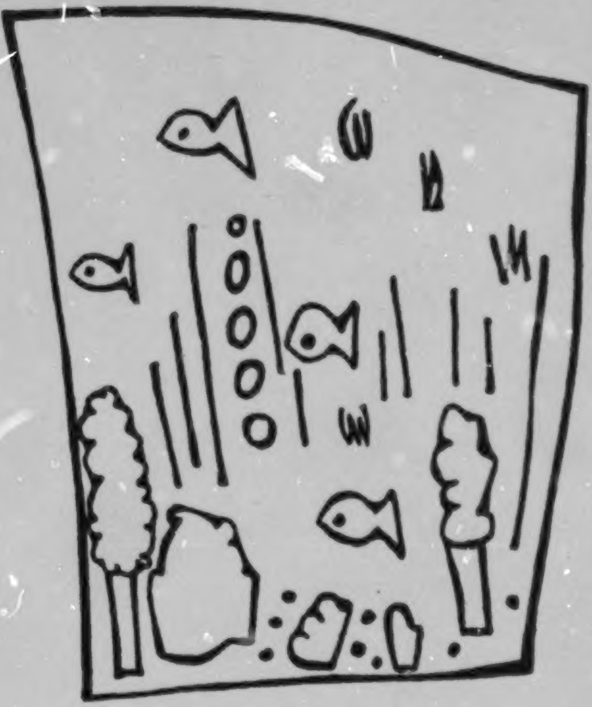
1. to be dependent on each other
2. a hole dug in the ground
3. to make (a thing) start to grow
4. changing to fit different conditions
5. one who preys upon other animals
6. a natural grassland
7. the surrounding in which something lives
8. a chain of events linked together by foods

Prairie Evaluation

1. A prairie is a natural grassland.
2. Prairie plants and animals are directly dependent on each other.
3. The decayed remains of animals help to fertilize the soil.
4. Living things linked together by foods is called a food chain.
5. The sun provides heat and energy for animals and plants on the prairie.
6. A predator of the prairie dog is the golden eagle.
7. A predator is an animal who preys upon other animals.
8. The prairie is vanishing because ____________________.
9. Some animals of the prairie are (name four) ____________.
10. Some plants of the prairie are (name four) ____________.
11. The weather we find on the prairie in the summer is ________. Or the climate found on the prairie includes ____________.

- - - - - - - - - - - - - - -

golden eagle
sun
food chain
prairie
animals
predator
dependent



PONDS - STREAMS - WETLANDS UNIT

OBJECTIVES

1. Students will be able to differerentiate between a pond, stream, lake, and wetland.

2. Students will be able to name plants and animals living in the ponds, streams, wetlands.

3. Students will study the interdependence of plant and animal life of the pond environment (food chain).

4. Students will be aware of pollution in the pond - stream - wetland environment and ways to improve these conditions.

Lesson #1 - CHARACTERISTICS OF STREAMS AND PONDS

OBJECTIVE

To learn about the differing characteristics of streams and ponds.

BACKGROUND

pond - a body of still water, smaller than a lake.

stream - small rivers and large brooks, running water.

LEARNING ACTIVITIES

1. Filmstrip - "Streams and Ponds."

2. Discussion of ponds and streams -

   a. How does rainfall affect them?
   b. Does the size of a pond change at different seasons?
   c. How do spring rains affect them?
   d. How do summer droughts affect them?
   e. Which has moving water?
   f. How does the non-moving water of a pond differ from a stream.

3. Write three good sentences telling about each - the pond and the stream.

RESOURCES - Materials - "Streams and Ponds," filmstrip.

Lesson #2 - ANIMAL LIFE OF WETLANDS

OBJECTIVE

To acquaint students with animal life in wetlands.

BACKGROUND

swamp - wet soft land

marsh - lowland covered at time by water

environment - surrounding things, conditions, or influences

LEARNING ACTIVITIES

1. Discuss the words - swamp, marsh, wetlands.
2. Show filmstrips -
   a. "Marshes."
   b. "How Animals Live in the Swamp."
3. Discussion Questions -
   a. Where are swamps found? (low areas)
   b. Why are they wet? (water in low areas)
   c. What animals live in or near a marsh? (raccoon, fox, opossum, rabbit, muskrat, frogs)
   d. Name some birds of the wetlands.
4. Read Swamp Spring to the children.

RESOURCES - Materials

Swamp Spring - book

"Marshes," filmstrip.

"How Animals Live in the Swamp," filmstrip.

Lesson #3 - ANIMALS IN PONDS AND STREAMS

OBJECTIVE

The children will learn the names of animals in ponds and streams.

BACKGROUND

vegetation - growing plants.

larvae - the worm stage of an insect.

adapted - made to fit.

oxygen - a gas without color, animals and plants cannot live without it.

carbon dioxide - a gas in the air that animals breathe out and plants take in.

amphibian - an animal living both on land and water.

mammal - an animal with a backbone that gives milk to its young.

LEARNING ACTIVITIES

1. Discuss the above words and their meanings and how they are related to the ponds and streams.

2. Show filmstrip - "How Animals Live in Fresh Water"

   a. Name the amphibians seen in the filmstrip. (turtle, frog, toad, snail)
   b. Name the mammals. (beaver, otter)
   c. What bird was shown? (mallard)

3. Discuss others that live in this ecosystem.

4. Classification: Mammal, Amphibian, Bird.

   mallard, kingfisher, snail, otter, raccoon, turtle, muskrat, frog, beaver, crayfish, mink, fox, skunk, deer, heron, Canada Geese, chipmunk, hawk, rabbit, snake.
   Suggestion: Place the groups on the board and have the children place them in the proper class.

RESOURCES - Materials

A Trip to the Pond - book.

"How Animals Live in Fresh Water," filmstrip.

Lesson #4 - PLANTS IN THE WETLANDS

OBJECTIVE

The children will learn the names of plants and their part in the wetlands environment.

BACKGROUND

Plants add beauty to the wetlands environment. They are as important as the animals visiting there. Many of the animals must have the plants for food and energy in order to live. The meat eating animals get their food from plants indirectly by eating the plant-eating animals. Only plants can make food.

LEARNING ACTIVITIES

1. Display pictures of common plant life of the wetlands. Indentify the plant and point out importance of each. (Marsh grasses, algae, water lily and pads, cattails, milkweed, willow trees.)
2. Filmstrip - "Exploring Ecology: The Swamp."
3. Make illustrations of plants and arrange on a roll of paper as filmstrip. Other children may write sentences to go along with each picture to identify the plant and tell why it is significant to that environment.

RESOURCES - Materials

"Exploring Ecology:The Swamp," filmstrip.

Lesson #5 - SEASONAL CHANGES OF A POND

OBJECTIVE

To develop the children's awareness of the seasonal changes of the pond and how it affects its size and inhabitants.

BACKGROUND

1. Have the children name the seasons and discuss the times of the year when precipitation is greatest and when diring the year the precipitation is least. Discuss how this affects the size of the pond or stream.
2. Discuss how the seasonal changes affect the plant and animal life of the pond. (winter homes, dry season, lush spring)

LEARNING ACTIVITIES

1. Show filmstrip - "The Pond."
2. Discussion questions:
   - a. When is the pond size usually smallest?
   - b. When could we expect it be largest?
   - c. When does the plant life thrive most?
   - d. What happens to amphibians in winter?
3. Draw a picture to show the pond in the season you choose. Write a paragraph telling about the pond during the season you chose to draw.

RESOURCES - Materials

"The Pond," filmstrip with cassette, Nature Series.

Filmstrip projector and cassette player.

Construction paper for drawing.

Lesson #6 - POND BULLETIN BOARD - 2 hours

OBJECTIVE

To use the concepts taught concerning animals and plant life in the pond and wetlands.

BACKGROUND

1. Preview the study of animal and plant life in wetlands and pond through a class discussion.

2. Develop a large bulletin board showing animal and plant life in the pond-wetland area.

   Animals - raccoon, fox, opossum, beaver, toads, frogs, fish, wild ducks, geese.

Plants - grass, water lily, cattails.

Materials

Scissors, glue, colored construction paper, large size rolls of blue and greenpaper to line bulletin board.

Lesson #7 - MARSH POLLUTION - 1 hour

OBJECTIVE

To develop student appreciation of marshes, and a desire to preserve them as a necessary part of our environment.

BACKGROUND

nutrients - food, nourishment.

landfill - materials, usually garbage and trash, to fill excavations or low lands.

Many marshes are being destroyed because the value of the land is less, therefore, home builders are buying them, draining and filling them in. Consequently, wildlife either must find new homes or will die. Marshes are sometimes used as a landfill and drainage form it causes pollution. This destroys the beauty of it.

LEARNING ACTIVITIES

1. Show filmstirp - "Marshes-Despoliation and Imbalance."

2. Discuss:

   a. Why are marshes important to our environment?
   b. Why do builders want to buy marsh land?
   c. What must be done before building?
   d. How does this affect wildlife?
   e. What other undesirable uses do people make of marshes?

3. Make a poster showing ways we can save our wetlands.

RESOURCES - Materials

"Marshes-Despoliation and Imbalance," filmstrip, Eyegate House.

Filmstrip projector.

Construction paper, crayons, markers or paint.

Lesson #8 - STREAM POLLUTION - 1 hour

OBJECTIVE

To develop student appreciation of streams and a desire to preserve them as a necessary part of our ecosystem.

BACKGROUND

despoliation - rob or spoil.

imbalance - not balanced, too few or too many.

food chain - food relationship, linked as a chain, one to another.

pollute - make dirty.

LEARNING ACTIVITIES

1. Show filmstrip - "Streams and Ponds - Despoliation and Imbalance."

   Discuss the following:
   a. Discuss the fish food chain.
   b. Tell how man has destroyed streams.
   c. Tell how fish and other water animals adapt to protect themselves in the stream.
   d. What is the effect of pollution on wildlife?

2. Write a paragraph telling how you would try to help if: (choose one)
   a. a factory was pouring its wastes in the stream.
   b. someone was throwing garbage in the stream.
   c. plans were being made to build a bridge which would change the natural course of the stream.

RESOURCES - Materials

"Streams and Ponds - Despoliation and Imbalance," filmstrip, Eyegate House.

Lesson #9 - POND OR STREAM WRITTEN REPORT - 3 hours

OBJECTIVE

To enrich the children's knowledge of pond, stream, wetland plants and animals through a written report and drawing of the one chosen.

LEARNING ACTIVITIES

1. A review discussion of the plant and animal life we have studied.

2. Children are to choose one to do - a written report and drawing to accompany it. (Make certain a wide variety of topics are chosen so the material will be varied.)

3. Choose a book or books to read and from which to write report. (see resources attached)

4. Report should be three to four paragraphs in length. The picture to accompany it should show the chosen topic in its natural habitat.

5. Read report and show picture to class.

Lesson #10 - SETTING UP THE AQUARIUM - 1 hour

OBJECTIVE

Students will learn about fish and snails by assembling an aquarium.

BACKGROUND

1. Guppies will almost take care of themselves. They thrive best in 72-80° water. They do not need an aerated tank if aquariam is large and holds sufficient water.

2. Snails help to keep the aquarium clean. They may be obtained from a stream or pond or commercial supplier.

3. Feed only once a day. Overfeeding is a major cause of death.

LEARNING ACTIVITIES

1. Send request for aquariums not being used at home.

2. Assemble the aquarium. Place washed sand or gravel at the bottom. The surface of the water should be sufficiently large in relation to the tanksize. Add "aged" dechlorinated water. (Water set out 24-48 hours before placing in the tank.) Water temperature should be 72-80° F.

3. When the aquarium has been made ready, guppies or goldfish and snails should be placed in it.

RESOURCES - Materials

Aquarium, water, thermometer, washed sand or gravel, guppies or goldfish, snails.

Lesson #11 - SNAIL STUDY - 1 hour

OBJECTIVE

The students will learn about snails and their relationship in our environment.

BACKGROUND

1. Riddle - What tiny animal can pull two hundred times its own weight, has 25,600 teeth, and can sleep three or four years without food?

2. What can you tell about the snail's shell?

3. Can you name some enemies of the snail?

LEARNING ACTIVITIES

1. Use the book - That Remarkable Creature, the Snail by Oscar Schisgall.

2. Show filmstrip - "Backyard Community." Use portion related to snails.

3. Discuss the snail - its body, food needs, enemies, where does it live, how is it important to man.

4. Write a cinquain about a snail.

RESOURCES - Materials

Schisgall, Oscar, That Remarkable Creature, the Snail.

"Backyard Community," filmstrip.

Lesson #12 - FIELD TRIP - 1 hour

OBJECTIVE

Students will visit a stream and be able to point out animal and plant life and any evidence of pollution.

BACKGROUND

Look for and list all wildlife or signs of wildlife along and in the stream. Be on the look-out for mammals, birds, fish and plant life studied. Take a strainer and a water container, anticipating finding snails for an aquarium. Each group will receive a card with an assignment on it.

LEARNING ACTIVITIES

1. Invite parents to accompany us on the trip. Suggest a parent for each group of six children.

2. Take the class to a nearby stream.

3. Each child has a card on which is written his group assignment.
   Example:
   a. Find evidence of changes in banks or shoreline. What caused it? Is it natural or manmade?
   b. Make a list of all wildlife you see or signs of wildlife in the area. Is it a good habitat? Why?
   c. List evidences of pollution. How would you organize a clean-up campaign? What would you do to stop littering?
   d. Make a list of all living creatures on or in the water. Use these to build a food chain.

Lesson #13 - TEST - 1 hour

OBJECTIVE

Students will arrange the pond food-chain and classify plant and animal life found in these ecosystem.

LEARNING ACTIVITIES

1. List the following and have the children place them in the pond food chain.
   grasshopper, raccoon, heron, green plants, frogs, dragonfly.

2. Classify the following accoring to the following order: Mammals, Birds, Plants, Insects.

   water lily, fox, raccoon, cattails, frogs, dragonfly, blue heron, grasshopper, beaver, otter, toads, algae, snakes, rabbit, turtle, ducks, kingfisher, mosquito, hawk, willows, muskrat, owl, reeds.

RESOURCES - Materials

Pencil and paper.

RESOURCES - BOOKS

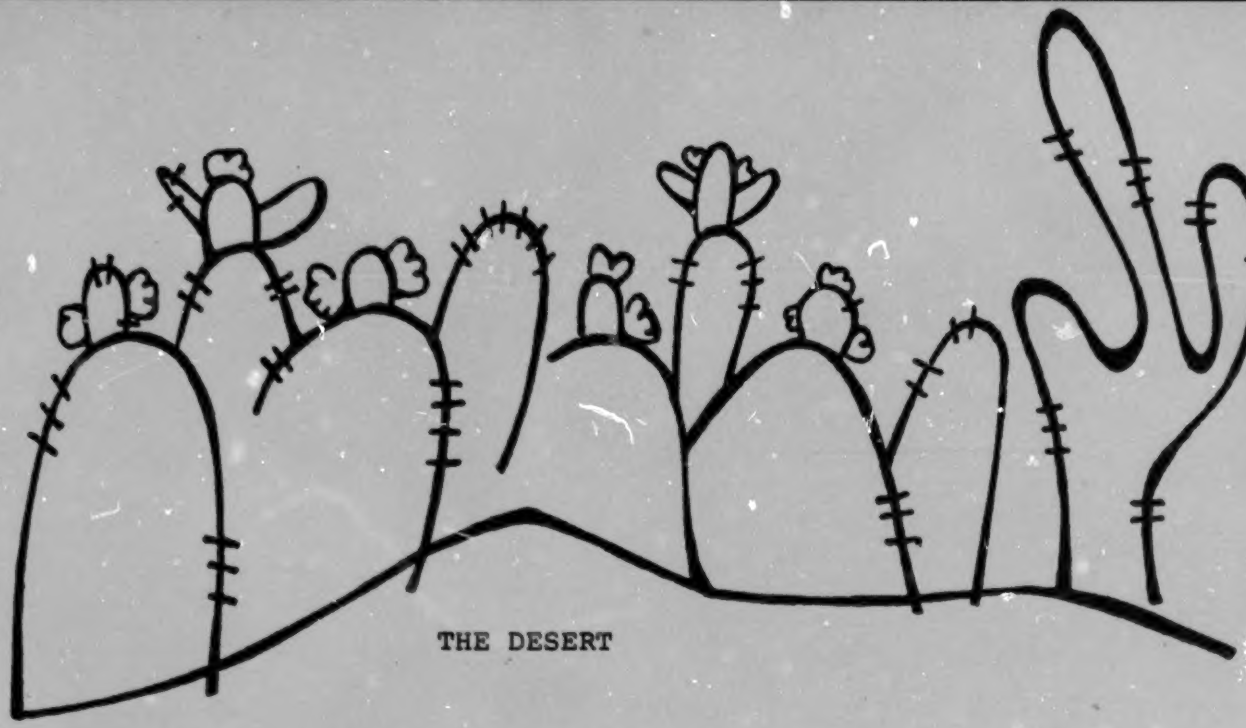
574.92 B	Buck, Margaret, Pets from the Pond, Abingdon, 1958.
574 C	Carrick, Carol, Swamp Spring, Macmillan, 1969.
574 C	Chenery, Janet, The Toad Hunt, Harper, 1967.
598.1 D	Darby, Gene, What is a Turtle?, Benefic Press, 1960.
591 E	Erickson, Phoebe, The True Book of Animals of Small Ponds, Children's Press, 1953.
551.4 G	Goetz, Delia, Swamps, Morrow, 1961.
598.1 H	Hecht, Bessie, All About Snakes, Random, 1956.
574 H	Hofmann, Melita, A Trip to the Pond, Doubleday, 1966.
598.1 H	Hoke, John, First Book of Snakes, Watts, 1952.
574 K	Kane, Henry, The Tale of a Pond, Knopf, 1960.
598 K	Kane, Henry, Tale of the Wild Goose, Knopf, 1946.
599 M	May, Julian, The Life Cycle of a Cottontail Rabbit, Children's Press, 1973.
599 M	May, Julian, Life Cycle of an Opossum, Children's Press, 1973.
599 M	May, Julian, The Life Cycle of a Raccoon, Children's Press, 1973.
599 M	May, Julian, The Life Cycle of a Red Fox, Children's Press, 1973.
599 P	Pringle, Laurence, In a Beaver Valley, World, 1970.
598.2 R	Ripper, Charles, Diving Birds, Morrow, 1967.

594 S	Schigall, Oscar, That Remarkable Creature, the Snail, Messner, 1970.
E	Seymour, Dorothy, The Pond, Wonder Books, 1965.
597 s	Schoenknecht, Charles, Frogs and Toads, Follett, 1960.
591 S	Schwartz, Elizabeth, When Animals are Babies, Holiday 1964.
597 S	Shapp, Martha, Let's Find out about Fishes, Watts, 1965.
599 T	Tresselt, Alvin, The Beaver Pond, Lothrop, 1970.
598.1 W	Waters, John, Green Turtle Mysteries, Thomas Y. Crowell, 1962.
598.1 W	Wescott, Alita, What is a Reptile, Benefic Press, 1964.
581 W	Wong, Herbert, Plant Communities: Where can Cattails Grow?, Addison-Wesley, 1970.
599 W	Wood, Dorothy, Beavers, Follett, 1961.
597 W	Woods, Loren, Fishes, Follett, 1969.
597 Z	Zim, Herbert, Frogs and Toads, Morrow, 1950.
597 F	Fishes We Know, by the Editors of Creative, Children's Press, 1973.

A-V Materials

301 B	"The Backyard Community," Budek Company.
SFSg 574.5 E	"Exploring Ecology: The Swamp," National Geographic Educational Filmstrips.
FS 591 A	"How Animals Live in Fresh Water," Curriculum Filmstrips.
FS 591 A	"How Animals Live in Swamps," Curriculum Filmstrips.

FS 574.5 M	"Marshes," Eyegate House.
FS 574.5 S	"Marshes - Despoliation and Imbalance," Eyegate House.
SFS 574.92 P	"The Pond," BFA Educational Media.
FS 574.5 S	"Streams and Ponds," Eyegate House.
FS 574.5 S	"Streams and Ponds - Despoliation and Imbalance," Eyegate House.



THE DESERT

OBJECTIVES

1. Though the desert seems to be a giant sandbox, students will discover that it has an abundance of plant and animal life.

2. Students will understand the diversity in the desert's climate ranging from extreme heat to coolness, drought to cloud bursts, sandstorms to windless days and rain to snow.

3. With its very dry climate and high degree of heat, plants and animals are still able to store water in their roots and bodies to survive. They must learn to adapt to these circumstances.

4. Due to the climate of the desert, the students will be able to know why certain animals roam the desert during the day or at night.

5. Students will be able to discover how the animals and plants protect themselves from other living things in the desert.

6. Students will be able to divide animals into four different groups: reptiles, insects, birds and small animals and categorize specific animals into these groups.

7. Students will be able to know that the terrain of the desert consists of mountains, sand plants, rocks, oasis, valuable minerals (such as salt flats) etc.

Lesson #1 - THE DESERT ENVIRONMENT

OBJECTIVE

The children will learn that the desert, though appearing to be a vast wasteland, is full of life, mystery, and has an environment all its own.

BACKGROUND

desert ecosystem or environment - everything around the desert community considered as a group (the plants, animals, climate, etc.)

mirage - seeing something that is not there; caused by a mixtureof the sun, mountains, sand and air reflecting and making an illusion of water.

mystery - an unexplained happening.

petrified trees - the change of trees from wood into stones or a stony matter over a long period of time.

LEARNING ACTIVITIES

1. Prior to the Disney filmstrip, "What is a Desert," have the students tell what they know about the desert.

2. Read pages 9, 12, and 13 from Life in the Desert by Larson.

3. Show filmstrip, "What is a Desert," afterwards, discuss the following:
   a. Describe the desert's environment.
   b. Talk about the certain mysteries of the desert.
   c. Locations of the desert in the United States. Use large map.
   d. Have children draw a picture of the desert on one new fact they have discovered from seeing this filmstrip. Include a complete sentence with this new picture fact.

4. Show filmstrip on the desert from "Land Biomes of the World" (First half).

5. Desert filmstrip #1 from "4th Year Physical Geography: The Desert."

6. Ten point True or False quiz on the desert environment.

Lesson #2 - RAIN IN THE DESERT

OBJECTIVE

The rain which falls in the desert is of vast importance to the plants and animals, soil, and has an effect on the desert's terrain.

BACKGROUND

terrain - the type of land a certain area has.

cloud burst - a sudden rainstorm.

flashflood - a sudden, violent flood after a heavy rain.

evaporate - to soak in; melt; what happens to the water
or absorb which falls in the desert.

adapt - to be able to change in a certain situation.

LEARNING ACTIVITIES

1. Ask the students what they know about water in the desert from past information and background.
2. Read Pages 2 and 3 from Let's Go to the Desert by Harriet C. Hunnington, and Pages 10 and 11 from Life in the Desert by Peggy Larson.
3. Filmstrip, "Water in the Desert" by Walt Disney Nature Series I.
4. In their Picture and Story book, have students write a story on the desert. This should contain something about the desert's physical appearance, its mysteries, its diversified terrain, or climate.

RESOURCES - Materials

Hunnington, Harriet E., Let's Go to the Desert.

Larson, Peggy, Life in the Desert.

"Water in the Desert," Walt Disney Desert Series Filmstrips.

Lesson #3 - ANIMALS OF THE DESERT

OBJECTIVES

1. The students will be able to classify the desert animals into four groups - small animals, reptiles, birds, and insects.
2. The students will be able to indentify the areas where these animals make their names.
3. The students will be able to describe how different desert animals relate to each other.

BACKGROUND

immune - not to be hurt by another's bite.

radar - a sound by which bats travel.

predator - and animal who lives by preying upon other living things.

LEARNING ACTIVITIES

1. Show filmstrips from Walt Disney Filmstrips - "Animals at Home in the Desert," "Predators in the Desert."
2. Discuss the way these animals live in the desert, their relationships amongst one another, where their homes are located and the four groups into which they are divided.
3. Make a mural on the bulletin board depicting life in the desert environment among themselves, animals and plants.
4. Ten point matching quiz on animals.

RESOURCES - Materials

Filmstrips from Walt Disney desert Filmstrip Series.

Construction paper, glue, colors, large wallpaper for bulletin board.

Lesson #4 - NIGHTTIME IN THE DESERT

OBJECTIVE

Due to the desert climate and the many predators that live there, many animals must limit their activities to the nighttime.

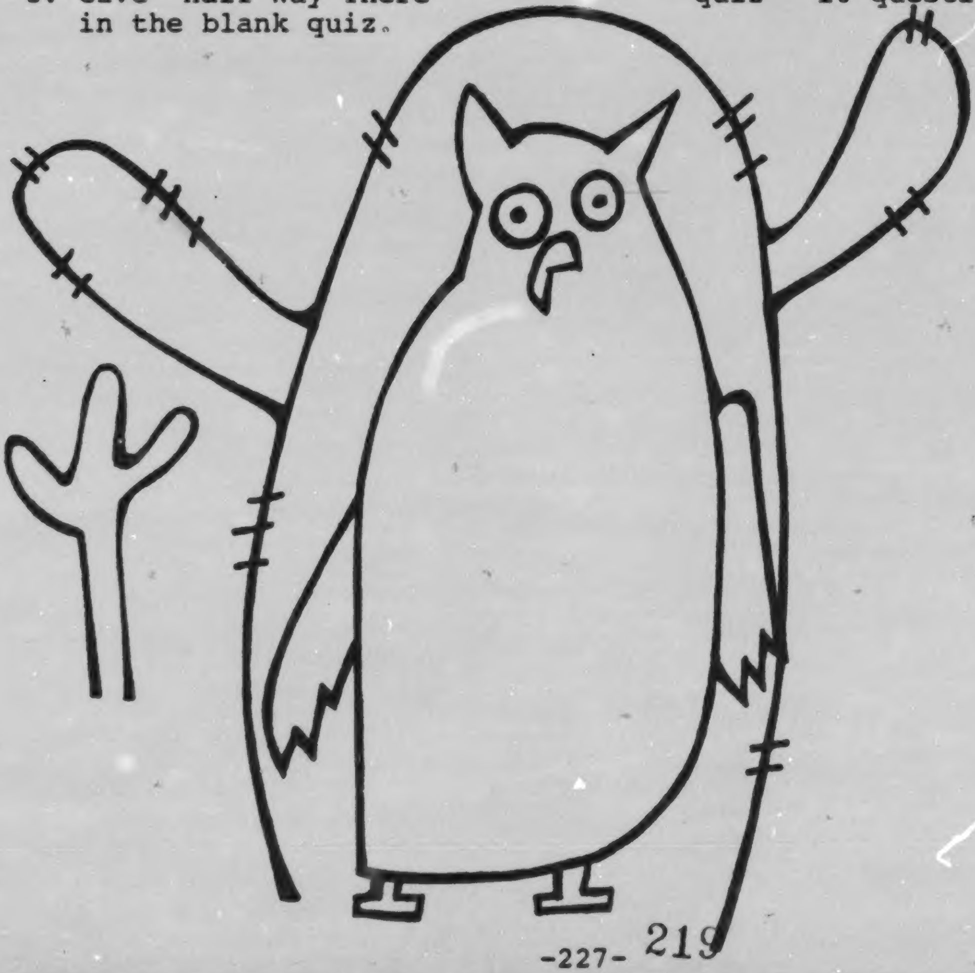
BACKGROUND

nocturnal - animals being active at night.

burrow - hole in the ground made by an animal for a home.

LEARNING ACTIVITIES

1. Discuss the life of animals in the desert up to this point. Talk about the role of predators, the location of the animals home, and the relationship between plants and animals to this point.
2. Show Second Half of "Biomes of the World - The Desert" and "Nocturnal Creatures of the Desert" from Walt Disney filmstrip series. Read to the class Look at the Desert Animals by Behrens.
3. Give "Half Way There" quiz - 10 questions - fill in the blank quiz.



Lesson #5 - WRITING ABOUT DESERT ANIMALS

OBJECTIVE

With their previous knowledge of animal relationships, types of homes, their varied forms of protection, the children will write a story about one animal or group of animals by using the above information from previous lessons.

LEARNING ACTIVITIES

1. Discuss past lessons about desert animals. Have the students bring out information of which the objective above speaks.
2. Write a story about a desert animal and its relationship with its environment. This story may be a factual report on a category of animals or on one particular animal. If students choose to concentrate on one particular animal, they can write the story as though they were the animal themselves and are recounting that animal's personal environment.

Lesson #6 - PLANT LIFE IN THE DESERT

OBJECTIVE

Even though there is an abundant amount of sun in the desert, but very little rain, a wide variety of plant life flourishes in the desert.

BACKGROUND

The students should understand these terms before beginning the lesson:

desert's climate

flashground and cloudburst

evaporation

absorb

adapt

The new terms to be stressed are

cactus (included are saguro, prickly pear, barrel cactus)

shrubs

pine

wildflowers (included are poppies, desert marigold, maripose lily, prickly poppy)

succulents

LEARNING ACTIVITIES

From previous lessons students will know that desert plants, primarily cactus, play an important role in the desert. They provide a home for many birds, shade from the sun for many animals, and that they are plants that can survive without much water.

This lesson will show the children different types of cactus, wildflowers, shrubs, and pines that grow in the desert.

1. Discuss previous information known about plants at this time.
2. Read from Ranger Rick's Nature Magazine May 1977 edition, pages 22 - 28. Present vocabulary words from board before reading this. Discuss this selection while reading it to the children and show them many of the pictures.
3. Show pictures of other desert plants from "Life in the Desert," "The Living Desert," and read pages 30-39 from "The True Book of the Desert."
4. Write a short paragraph about the important role desert plants play in their environment.
5. Make a paper, from scraps, of construction paper, using their knowledge of plants and animals in the desert environment.

RESOURCES - Materials

Larson, Peggy, Life in the Desert, pages 21-26 and 46-50.

O'Toole, Patricia, Strange World of the Cactus, Ranger Rick Nature Magazine, May 1977.

The True Book of Deserts, pages 30-39.

Paper, construction paper, and crayons.

RESOURCES - BOOKS

596 A Adrian, Mary, *Wildlife on the Watch*, New York, Hastings House, 1974

551.4 B Behren, June, *Look at the Desert Animals*, Chicago, Children's Press, 1973.

574 C Church, Jeffery and Walker, Lewis W., *The Desert Water Hole*, Chicago, Follett, 1962.

574 D Disney, Walt, *Living Desert*, Syracuse, N.Y., L.W. Singer, 1957.

551.4 E Epstein, Sam and Beryl, *All About the Desert*, New York, Random House, 1957.

551.4 H Huntington, Harriet E., *Let's go the the Desert*, Syracuse N.Y., Doubleday, 1958.

551.4 K Kirk, Ruth, *Desert Life*, Garden City, N.Y. Natural History Press, 1970.

590 K Klots, Alexander and Elsie, *The Community of Living Things in the Desert*, Mankato, Minn., Creative Educational Society, 1960.

551.45 L Larson, Peggy, *Life in the Desert*, Chicago, Children's Press, 1967.

O'Toole, Patricia, "Strange World of the Cactus," pp. 22-28, Ranger Rick's Nature Magazine, Washington, D.C., National Wildlife Federation, May, 1977.

551.4 Possell, Elsa, *The True Book of Deserts*, Chicago, Children's Press, 1958.

Sutton, Ann and Myron, The Life of the Desert, New York, McGraw Hill, 1966.

551.4 Wakeman, Norman Hammond, Southwest Desert Wonderland, New York, Dodd, Mead and Co., 1965.

A-V Materials

"Biomes of the World - The Desert," sound/filmstrip, Walt Disney Productions.

"Nocturnal Creatures of the Desert," filmstrip, Walt Disney Productions.

"What is a Desert?" sound/filmstrip, Walt Disney Productions.

THE JUNGLE

OBJECTIVES

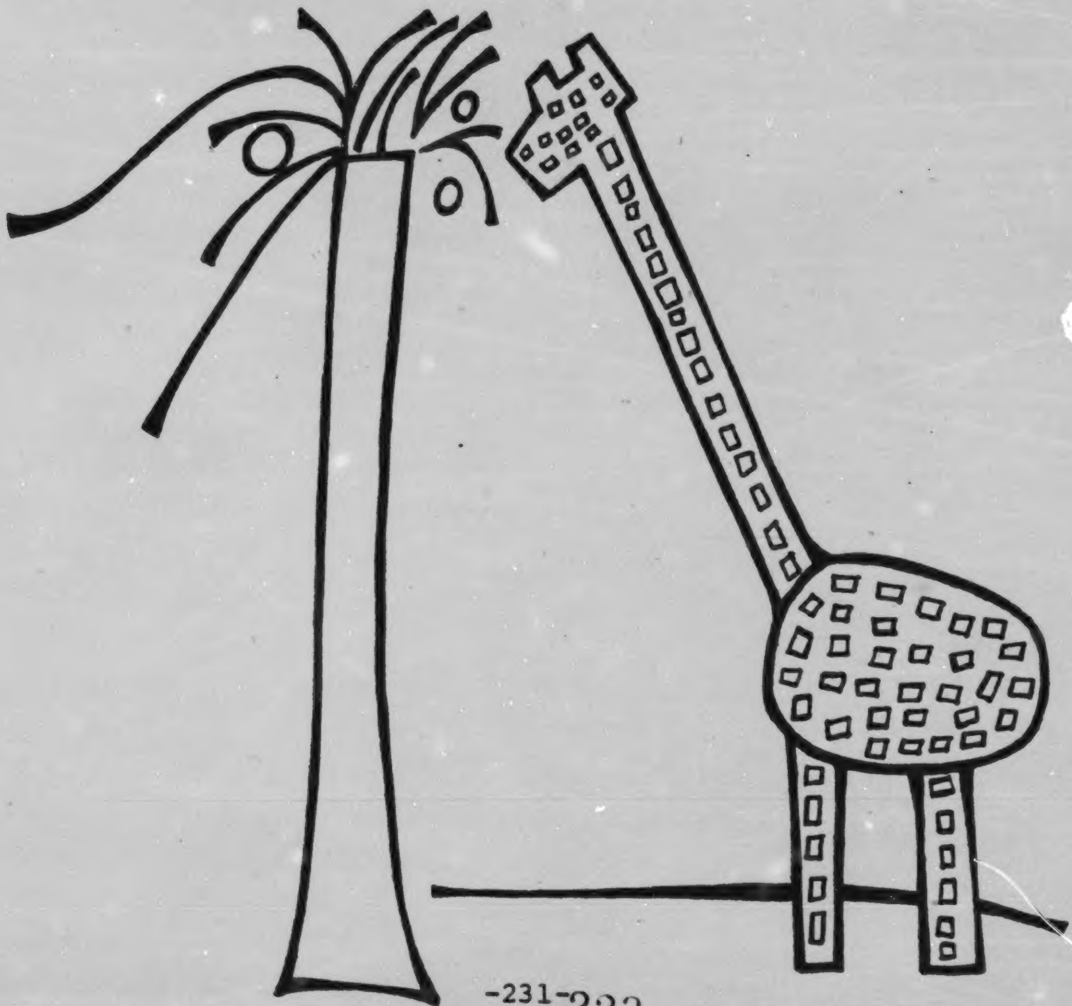
1. The students will be able to describe the climate of the jungle.

2. The students will be able to name common animals, birds, and insects found in the jungle and explain in which layer of the jungle they are found.

3. The students will be able to name common plants found in the jungle.

4. The students will be able to name and give a three sentence description of each of the three layers of the jungle.

5. The students will be able to explain and give an example of an ecosystem and a food chain.



Lesson #1 - INTRODUCTION TO THE JUNGLE

OBJECTIVES

1. The students will be able to locate areas of the jungle on a world map.
2. The students will be able to name 1 plant and 1 animal or bird found in the jungle.
3. The students will be able to write a one-sentence description of the jungle climate.
4. The students will be able to explain what an ecosystem is and tell why the jungle is considered an ecosystem.
5. The students will be able to explain that a food chain is.

LEARNING ACTIVITIES

1. Make a list on the board of any information the students can give about the jungle.
2. Explain what an ecosystem is and give some examples of how plants and animals in the jungle depend on each other.
3. Discuss where jungles are generally located in the world and point out these areas on a world map.
4. Read and discuss the book, The Jungle, bu Helen Borten.
5. Discuss the meaning of a food chain and interdependence and show some examples of these in the jungle.
6. Review and ask questions about material covered in this lesson.

RESOURCES - Materials

Borten, Helen, The Jungle.

Life in the Jungle, World Book Encyclopedia.

World Map.

Lesson #2 - THE JUNGLE LAND AND CLIMATE

OBJECTIVES

1. The students should be able to describe orally the climate of the jungle throughout the year.
2. The students will be able to draw a picture showing the terrain and types of trees and vegetation found in each layer of the jungle.

LEARNING ACTIVITIES

1. Distribute the ditto, "Things to Remember About the Jungle." Discuss and explain that students will be expected to know all starred items on this sheet. Ditto at end of jungle unit.

2. View and discuss the filmstrip, "Land of the Tropical Rain Forest," Walt Disney.

3. Construct a folder entitled, My Jungle Book, in which all dittos and student writing and pictures will be kept.

4. REVIEW - Students may be given an 8 question quiz on jungle material presented thus far. Oral discussion should follow a written quiz.

5. Have each student write a paragraph explaining why the streams are the most important part of the jungle.

6. Play a guessing game in which each student will orally describe a jungle plant so that another student will be able to guess the plant described.

RESOURCES

"Land of the Tropical Rain Forest, " sound/filmstrip,
Walt Disney Productions.

Lesson #3 - CATS OF THE JUNGLE

OBJECTIVES

1. Students will be able to recognize at least two cats common to the jungle.

2. Students will be able to explain orally the areas where cats are found in the jungle, and the animals that jungle cats depend on for food.

LEARNING ACTIVITIES

1. Distribute and discuss ditto titled "Plants and Animals and Resources of the Jungle." See copy at end of unit.

2. Distribute "Animals - Read and Color" booklets to be completed when students have spare time. Use Hayes Duplicating masters from "Zoo Animals" series.

3. View and discuss filmstrip "Cats of the Tropical Rain Forest," Disney.

4. Draw a simple food chain involving at least one jungle cat.

Lesson #4 - MORE JUNGLE ANIMALS

OBJECTIVES

1. Students will be able to indentify one mammal common the the jungle.

2. Students will be able to indentify 1 monkey found in the jungle.

LEARNING ACTIVITIES

1. View filmstrip, "Mammals of the Tropical Rain Forest," Walt Disney, and discuss it.

2. View and discuss the filmstrip, "Monkeys of the Tropical Rain Forest," Walt Disney.

3. Review material covered on jungle animals.

4. Work on animal booklets.

RESOURCES - Materials

"Mammals of the Tropical Rain Forest," Walt Disney.

"Monkeys of the Tropical Rain Forest," Walt Disney.

Lesson #5 - WRITING ABOUT JUNGLE ANIMALS

OBJECTIVE

Students will be able to describe in detail one jungle animal.

LEARNING ACTIVITIES

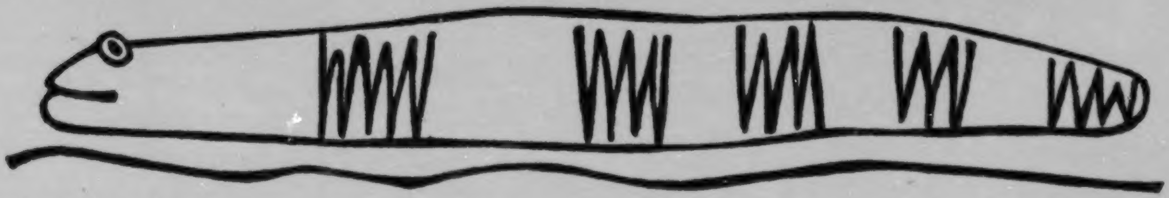
1. Students will write about one jungle animal they have studied. They will use the following questions as a springboard for their one-paragraph description:

    a. Who are you?
    b. Where do you live in the jungle (roof, understory, floor)?
    c. What do you eat?
    d. Who are your enemies?
    e. Why is the jungle a good place for you to live?

2. Write a riddle about a plant or animal from the jungle for your classmates to guess.

3. Pretend that you live in the jungle. Write a paragraph entitled, "A Day in the Life of a Jungle Boy/Girl."

4. List as many words as you can to describe how a particular jungle animal moves.



Lesson #6 - REPTILES AND BIRDS OF THE JUNGLE

OBJECTIVES

1. Students will be able to identify one reptile found in the jungle.
2. Students will be able to identify one bird common to the jungle.

LEARNING ACTIVITIES

1. View filmstrip, "Reptiles and Amphibians of the Tropical Rain Forest, " Walt Disney.
2. View filmstrip, "Birds of the Tropical Rain Forest" and discuss it, Walt Disney.
3. Play guessing game - "I am an Animal of the Jungle."
4. Work on Animal information booklets.

Lesson #7 - JUNGLE ANIMALS - CULMINATION

OBJECTIVES

1. Students will be able to draw and give a one-sentence description of one monkey found in the jungle.
2. Students will be able to write a simple rhyme about one jungle animal studied.

LEARNING ACTIVITIES

1. View and discuss the filmstrip, "Monkeys of the Tropical Rain Forest," Walt Disney.
2. Work on section in animal booklet on monkeys.
3. Choose one jungle animal and write as many adjectives as possible to describe it.
4. Using the list compiled in activity #3, write a four-sentence rhyme about the animal each child has chosen.

RESOURCES - Materials

"Monkeys of the Tropical Rain Forest," Walt Disney, filmstrip.

Dictionaries and all books in resource guide at end of section.

Lesson #8 - JUNGLE ART

OBJECTIVES

1. Students will construct one jungle animal and one plant or tree common to the jungle, using construction paper, tempera paint, scissors, and glue.

2. Students will add to a jungle mural on room bulletin board.

ACTIVITIES

1. Each student should make his own plant and animal. Make sure that there are not too many duplications. Many books with pictures of jungle plants and animals should be available for the children's reference.

2. Pretend that the jungle plant or animal can talk and write a one paragraph statement it might make.

Lesson #9 - CULMINATION OF JUNGLE UNIT

OBJECTIVES

1. The students will be able to write three paragraphs, one on each layer of the jungle.

2. The students will be able to name at least three resources coming from the jungle.

3. The students will write a short story on "Living in the Jungle," emphasizing the use of the five senses to describe the sounds, sights, smells, tastes, and feelings of the jungle.

LEARNING ACTIVITIES

1. Make the above assignments on separate days. Have plenty of the jungle reference books available for the children to use to aid their writing.

2. Writing assignments could be added to student's jungle books.

Things to remember about the jungle.

1. It is hot and wet all year.
2. It has 3 layers.
3. Jungles are found near the equator.
4. There are more insects in a jungle than anywhere else in the world.
5. There are more different kinds of trees in a jungle that anywhere else.
6. Its real name is rain forest.
7. Trees always stay green in a jungle.
8. Many plants grow in trees like a garden in the air.
9. The air is cool and damp on the bottom of the jungle, and it gets hotter and drier as you go up.
10. Most trees are tall and straight.

THE JUNGLE

Plants-Trees

1. vines
2. ferns
3. orchids
4. strangler fig
5. herbs
6. palms
7. mushrooms
8. periwinkle
9. philodendron
10. rubber tree
11. mohogany tree
12. ebony tree
13. banana tree
14. fig free

Birds, Animals and Insects

birds

1. macaw
2. parrot
3. parakeet
4. toucan
5. woodpecker

insects

1. moth
2. scorpion
3. termite
4. mosquito

animals

1. spider monkey
2. lizard
3. sloth
4. jaguar
5. snail
6. crocodile
7. frog
8. bat
9. wild pig
10. anteater
11. deer
12. jungle turkey

Resources

1. spices
2. medicines
3. oils
4. chocolate
5. nuts
6. balsa wood
7. bamboo
8. precious metals
9. valuable stones
10. bananas
11. figs
12. rubber
13. mohogany
14. ebony

RESOURCES - BOOKS

	Borten, Helen, The First Book of the Jungle, Harcourt Brace, New York, 1968.
551.4	Goetz, Delia, Tropical Rain Forests, William Morrow & Co., New York, 1957.
	Hoke, John, The First Book of the Jungle, Franklin Watts, Inc., New York, 1964.
574 P	Podendorf, Illa, The True Book of Jungles, Children's Press, 1961.
574 S	Selsam, Millicent, See Through the Jungle, Harper & Row, New York, 1957.
574 S	Sperry, Armstrong, All About the Jungle, Random House, New York, 1959.
599 W	Webb, Robert N., Animals of the Jungle, Whitman Publishing Co., Racine, WI, 1964.

Encyclopedias

	American Publishers Corporation, Library of Science, Vol. 5., Maxton Buplishing Corporation, 1965.
R 030 W	McGraw-Hill Book Co., Our Living World of Nature - The Life of the Jungle, World Book Encyclopedia, 1967.

A-V Materials

FS
590
W

All of the following filmstrips are from Walt Disney, "Forests of Tropical America" series.

1. Birds of the Tropical Forests.
2. Cats of the Tropical Forests.
3. Land of the Tropical Forests.
4. Mammals of the Tropical Forests.
5. Monkeys of the Tropical Forests.
6. Reptiles and Amphibians of the Tropical Forests.

INTRODUCTION TO POLLUTION

OBJECTIVE

To acquaint the students with and develop an interest in pollution.

BACKGROUND

ecology - the study of how living things depend on each other and on their environment.

ecosystem - the combination of the living and the non-living and their interrelationships.

environment - the whole earth and everything in it and on it.

recycle - to use over again.

pollution - something which is found in the environment which does not belong there.

landfill - a place where garbage or trash is dumped and then covered over with earth.

erosion - the wearing away of the soil.

LEARNING ACTIVITIES

1. Show pictures of all types of pollution. Have students classify the types of pollution they recognize.
2. Begin ecology dictionaries.
3. If available use the filmstrip "Earth" from the series Ecology and You. The film gives the basic concept of

ecology. The word is defined and an explanation is given of how everything in our environment is related to and affects every other thing.

4. Each student reports on a different animal telling what special adaption it has that particularly suits it to survive in its particular environment.

AN ECOSYSTEM

OBJECTIVE

To acquaint students with the concept of an ecosystem.

BACKGROUND

interrelationship - the relationship of plants and animals and how they depend on each other.

photosynthesis - the use of sunlight, air and water to produce energy

adaptation - changing to fit different conditions.

consumer - animals.

producer - green plants, organisms that can make their own food by photosynthesis.

decomposers - breaks down the organic matter.

LEARNING ACTIVITIES

1. Discuss the meaning of the words and add them to ecology dicitonaries.

2. Show the filmstrips

   a. "Interrelationships of Living and Non-Living" - 7 minutes.
   b. "The Balance of Nature" - 6 minutes.

3. Discussion of Filmstrip.

   a. How do plants and animals depend on each other?
   b. What is necessary for every ecosystem?
   c. What are the different parts of an ecosystem?
   d. What is the Balance of Nature?

THE BALANCE OF NATURE

OBJECTIVE

To acquaint the students with the balance of nature.

BACKGROUND

Students need to know the meaning of an ecosystem.

LEARNING ACTIVITIES

1. Show the two filmstrips
   a. "Interrelationships Between Similar Organism" - 7 minutes.
   b. "Interrelationships Between Different Organism" - 7:15 minutes.
2. Discussion
   a. What happens when the balance of nature is disturbed?
   b. What are some of the ways of changing the balance of nature?
   c. Are all changes in the balance of nature bad?

WATER POLLUTION

We all need clean water - a six period unit on water pollution. Seven - one hour class periods.

OBJECTIVES

1. To acquaint students with the importance of clean water.
2. To emphasize that all living things on earth need water.
3. To show the harmful effects of pollution on wildlife and on man.
4. To have the students become aware that something can be done to clean our water and to keep it clean.

BACKGROUND

organisms - living things.

niche - a place to live that supplies the necessary factors for the existence of an organism.

conservation - a careful preservation or protection of something.

algae - any group of chiefly water plants such as seaweed and scum.

chlorine - a chemical used to kill germs in our tap water.

LEARNING ACTIVITIES

Day 1

1. Show filmstrip from Ecology and You on "Water."
   Filmstrip - The uses man has for water and how through over population, over-production and negligence, man is making this water unsafe for drinking and other uses.

2. Discuss water and its use.

3. Have students take on one of the following roles and explain how water pollution affects them.

   a. farmer
   b. lifeguard
   c. fisherman
   d. doctor
   e. you

4. Begin reading the Seal and the Slick.

Day 2

1. Hand out books: Once There Was a River: A Story of Water Pollution.

2. Read books with students.

3. Hand out worksheets with questions to go with books.

   Worksheet

   1. What was the river used for before it was polluted?
   2. What things happened around the river?
   3. How do trees help the soil?
   4. What happens when it rains?
   5. Name five things that help to pollute the water.
   6. Tell what the words algae and phosphates mean.
   7. What made the river smell bad?
   8. What can be done about water pollution?

4. Finish reading The Seal and the Slick.

Day 3 - WATER POLLUTION AFFECTS ANIMALS

1. Write a story about an animal that lives in the water and how water pollution affects it.

2. Visit a river or creek.

   Describe how the river smells
   Describe how the river looks
   Describe how the river feels
   Describe how the river tastes
   Describe how the river sounds

3. Write a cinquain to tell about the river.

Day 4

1. Show filmstrip "Pollution of the Waters."
   Summary: The water cycle, the necessity of water for all life and the use of water in our daily lives are all demonstrated. The harmful effects of water pollution are shown.

2. Hand out worksheets one and two. Worksheets come with the filmstrip.

3. Discussion
   a. What causes water pollution?
   b. How can the water be reclaimed?
   c. How can we stop water pollution?
   d. What danger does water pollution cause?

Day 5

1. Have pictures of different types of water pollution. Have students then write a paragraph describing the pictures.
   a. What caused the pollution?
   b. What is happening to the water now?
   c. How can we stop this pollution?
   d. What will happen if the pollution is not stopped?

Day 6

1. Show filmstrip "Just Don't Stand There Do Something" 8 minutes water pollution.
   Questions:
   a. How is water polluted in the home?
   b. How do detergents pollute the water?
   c. How do farms and ranches contribute to water pollution?
   d. How does industry pollute water?
   e. What happens to animals and water during an oil spill?

2. Further discussion questions for use in water pollution section.
   a. Why is untreated drinking water unsafe?
   b. How does the water travel from the plant to your home?
   c. What is sewage?
   d. How does sewage get from your home to the sewage treatment plant?
   e. Why must sewage be treated?

3. Experiments for water pollution.
   Materials - one quart of:
   a. Fresh tap water.
   b. Tap water after settling for 24 hours.
   c. Well water (Safe for drinking).
   d. Stream or ditch water (do not taste stream or ditch water without boiling if pollution is suspected).
   e. Rain water collected in a container setting out in the open.
   f. Distilled water.
   g. Diluted vinegar.
   h. Diluted NaOH (caustic) solution (one pellet per quart).

(Two or three drops applied directly on the tongue from an eye dropper provide the adequate taste sample. Regardless of the method used, have students rinse out their mouths with sater afterward.) Let them see, smell, feel and taste each sample and then describe it. Make up a chart for them to fill in.

Sample Chart

Answer yes or no	A	B	C	D	E	F	G	H
Does it look good?								
Does it feel good?								
Does it smell good?								
Does it taste good?								

Conclusions

1. Which sample looks, smells, feels, and tastes best?
2. Which is best for drinking?
3. Which is worst?
4. Then explain what each sample was and how it can be improved by treatment.

Free booklet available on different pollutants from:

Dow Chemical USA
Barstow Building
2020 Dow Center
Midland, Michigan 48640

AIR POLUTION

We all need clean air: A four period unit on air polution.

OBJECTIVES

1. To discuss the idea that our atmosphere is necessary for life on earth.

2. To explain how our atmosphere becomes polluted from such sources as automobiles and smokestacks.

3. To illustrate how weather conditions contribute to smog.

4. To acquaint students with the effects of air pollution on animals, plants, and man.

BACKGROUND

carbon dioxide - a heavy colorless gas that is given off by humans as they breathe and taken in by the plants.

atmosphere - The whole mass of air surrounding the earth.

carbon monoxide - a colorless, odorless deadly gas.

nitrogen oxides - gasses which are poisonous and products of combustion.

inversion - a blanket of warm gas often poisonous, usually over a city with colder air on top of this layer.

LEARNING ACTIVITIES

1. Show filmstrip on "Pollution of the Atmosphere."
2. Add vocabulary words to dictionaries.
3. Hand out worksheets one and two.
4. Begin reading Smoke.

Day 1

1. Show filmstrip from "The Earth is my Home on Air." Summary: The film explains exactly what air is, how the body uses it, and why it is necessary to life on earth. Examined in this filmstrip are the nature of pollution, examples of pollution and the relationship of pollution to the total picture.

Day 2

1. Books: Who Cares About Air Pollution? (worksheets available)
2. Discussion:
   1. What is smog? Where does it come from?
   2. What is carbon monoxide?
   3. Who causes air pollution?
   4. How does air pollution affect you as a person?

Day 3

1. Show filmstrip "Don't Just Stand There Do Something" - Air pollution.
2. Investigate your neighborhood and report on different causes of air pollution.
3. Write an article for the local newspaper in which you suggest ways you and your friends can help fight air pollution.

Day 4

OBJECTIVES

1. To have students become aware of noise pollution.
2. To show the harmful effects of noise pollution.

BACKGROUND

decibel - unit of measure for sound.

LEARNING ACTIVITIES

1. Read Noise, Noise, Noise.
2. Have students take a tape recorder and tape noises in different areas of the school both inside and out. Have students make a chart to see which areas have the largest concentration of noise pollution. Make posters showing ways to correct this pollution.

AIR POLLUTION - two periods

LEARNING ACTIVITIES

NOISE

1. Can listening to a loud sound for 15 minutes produce a temporary loss of hearing?
2. How can a tape recorder be used to measure the volume of sound?
3. How does the distance one is from the source of a sound its loudness?
4. How does size of the space in which the sound is contained affect its loudness?
5. Where does noise pollution occur in your community?
6. How can noise be reduced?
7. Sound Mapping.
8. Sound Qualities & Noise.

   Experiment:
   Kinds of Sounds
   A. Take the class to several different "Listening" places. Have them describe the sounds they hear. Make a comparison of sounds which are pleasant and which are unpleasant (noise). What causes the sounds? Can anything be done to correct the noise (polluted sounds)? Why are the sounds pleasant and unpleasant? What can be done at

home to take care of the noise? Where do they think it is best to run and shout? To play table games, etc.?

B. Work with the children and make a list of sounds rating them as pleasant or unpleasant. What makes these noises? What can be done to make them pleasant?

C. Use an audiometer to measure the decibel level at various spots on the school grounds and in the school building.

LAND POLLUTION PROBLEMS - a two period unit.

OBJECTIVES

1. To discuss the idea that clean land is necessary for life on earth.

2. To acquaint students with the effects of land pollution on animals, plants and man.

BACKGROUND

erosion - the wearing away of soil by the action of water, ice or wind.

landfill - a place where garbage or trash is dumped and then covered over with earth.

recycle - to use over again.

LEARNING ACTIVITIES

1. Read Wastebasket Full, Wastebasket Empty.

2. Splash test.

3. Garbage
   a. How many bags or cans of garbage would be picked up by the garbage man each week from the homes in your town or city?

   b. What other sources of garbage would there be?

   c. Make a list of the problems that might be caused if the garbage wasn't collected?

4. Litter
   a. Collect all the evidence of pollution on your school playground.

   b. How much did you collect?

   c. Make a list of the kinds and the amount of material you collected.

   d. Show your information on a graph or chart.

5. ON A STREET NEAR YOUR SCHOOL
    a. Collect all the evidence of pollution you can in three or four blocks.

    b. How much did you collect?

    c. Make a list of the kind and amount of material you collected.
    d. Show your findings on a graph or chart.

6. Using the Results of the Two Previous Activities
    a. Which has been polluted the most, the street or the schoolground? Probe your findings.

    b. Make a list of the causes of these two different kinds of pollution.

    c. Suggest ways that the problem can be solved.

    d. What can you do?

7. Around Your Home
    a. Make a list of the signs of pollution around your home.

    b. Are there different kinds of pollution? What are they?

    c. What can each person do to get rid of pollution?

    d. Make a poster for your class or school that will help get rid of pollution.

PAPER MAKING BY RECYCLING

LEARNING ACTIVITIES

How to make paper by recycling old paper.

Materials:

1. White facial tissues (30 pieces)
2. An egg beater
3. A bowl
4. A cake pan 13" x 9" or larger
5. A piece of screen to fit in the cake pan.
6. Water

Put tissue into a bowl. Fill the bowl half full of warm water. Soak in water for an hour. Mix paper until soupy. Put screen into the pan and pour pulp over it. Lift up screen and shake it gently over pan. Let it dry for a day.

ENDANGERED WILDLIFE - a three hour unit.

OBJECTIVES

1. The students will become aware of the habitats of endangered wildlife.

2. The students will become aware of the dangers faced by endangered wildlife including hunter, chemicals and pesticides.

LEARNING ACTIVITIES

1. Show any of the filmstrips from "Tales of Endangered Wildlife."

2. Kit includes following:
   a. For, the American Bald Eagle
   b. Sierra, the Big Horn Sheep
   c. Boca Grande, the Alligator
   d. Ariel, the Whooping Crane
   e. Woui, the Gray Wolf
   f. Stormy, the Buffalo

2. Writing Activity:
   Write a short paragraph on their favorite animal and why he is their favorite.

3. Filmstrip - animals from the Kit.

   "Ecology and You" - This filmstrip presents another view of animals. The filmstrip examines how man continues to misuse animals in sport and for commercial purposes and how his incautious use of insecticides and chemicals has upset nature's balance.

LIST OF ENDANGERED SPECIES OF WILDLIFE IN U.S.

1. Blackfooted ferret - indirect victim of the poisoning of prairie dogs.

2. Everglades kite - feed only on a freshwater snail that is disappearing because of swamp drainage.

3. Grizzly bear.

4. Lake Sturgeon - fine foodfish, easily caught.

5. Whooping Crane - wetlands drainage, hunting.

6. Ivory-billed Woodpecker - lumbering.

7. Southern Sea Otter - hunted for pelts.

8. Key Deer - hunters, dogs, automobile traffic.

9. Michigan and Montana Graylings - must live in pure cold water.

10. Wolverine

11. Aleutian Canada goose - man

12. Alligator.

13. California Condor.

14. Southern Bald Eagle.

15. Attwater's Prairie Chicken.

16. Timber Wolf.

17. Florida Panther.

18. Eskimo Curlew.

19. Backman's Warbler.

20. Caribbean Monk Seal.

21. Several Sparrows.

22. Hawaiian Bird Species.

ADDITIONAL WRITING ACTIVITIES FOR POLLUTION UNIT

1. Write pollution poster poems.

2. Show a picture of a healthy green plant or have a healthy plant in the classroom. Explain to the students that to stay healthy, a green plant needs food, water, and a lot of sunlight. Have the students write a paragraph explaining what will happen if air pollution stops the sunlight from reaching the plant?

4. Recycling - How does this help to stop pollution?

5. Write letters to recycling plants.

6. Write letters to different factories or businesses asking what they are doing about pollution.

7. How can water pollution be harmful to people, fish and water plants?

8. Listening to loud noises for a long time can be harmful to people. What do you think can happen to people who listen to loud noises all day?

9. Write a story using the title, "How Can We Protect Our World?".

10. Write a story using the title, "Nature's Beauty I Found." Introduction: There's beauty all around you. Take a picture of a beautiful nature scene or cut one out of amagazine. Write a story that tells why it should be protected.

11. Take a photograph of pollution near your home or school or cut out a picture from a magazine. Write a story that tells why it's bad.

12. Cinquain

    Pick out your favorite thing. Use one word to name what it is. Can you use two words to describe it? Three words about what it is doing? Four words to describe how you feel about it? One word which, to you means the same as the first word?

13. Story Starters:

    1. Junk Heap For Sale
       Slippery Steve works at the Not Worth It Used Car Lot. He is the best used car salesman this side of the Mississippi River. He has a junk heap to sell. S Suddenly, he sees Stanley Sap coming down the street. "Howdy, Mr. Sap, Have I got a car for you!"

       Describe the car that Slippery Steve wants to sell. How will he convince Stanley Sap to buy it? Will he sell it? Write down their conversation.

    2. Honk! Honk!
       You awake one morning and look out the window. What a shock! The street where you live has turned into a super highway. Hundreds of cars are whizzing by. How will your life change? Are you happy or sad about this change? Why?

    3. Pollution Problem
       You are an animal living in the air, sea, or on land. People are polluting your environment to the point where other living things will die. Write a letter convincing people that pollution must stop. Use the form below.

       Your address in the air,
       sea, or on land

       Dear People of Planet Earth,

    4. Mud Monster Returns

       Mud Monster enemy of the people has returned to frighten the citizens of Shaky Creek. You and only you are brave enough to capture this awful creature. Write a story telling: Where will you find Mud Monster? How will you capture it? Include all the scary details.

RESOURCES - BOOKS

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628 Lauber, Patricia, Too Much Garbage, Garrard Publishing Co., 1974.

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Pringle, Lawrence, The Only Earth We Have, The MacMillan Company.

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The Processing and Recovery of Jon Thomas Cool Cat, U.S. Environmental Protection Agency, Washington, D.C.

A-V Materials

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"Earth," "Air," "Water," "Animals," "Our World Today," "Your Role in Ecology," Ecology and You, Teaching Resource Films, The New York Times, Bedford Hills, N.Y., 1972.

"Ecology Action Pack," spiritmasters and transparency, MacDonald's Corp., 1973.

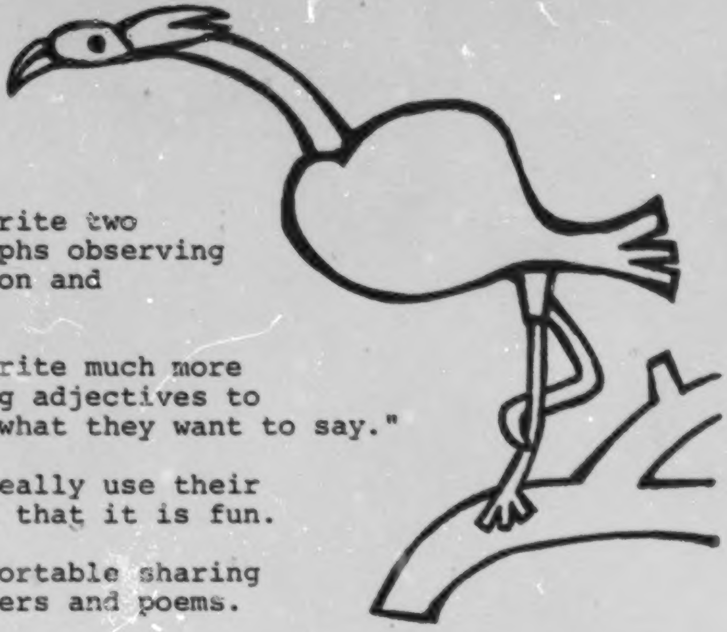
"For the American Bald Eagle," "Sierra, the Bighorn Sheep," "Boca Grande, the Alligator," "Ariel, the Whooping Crane," "Woji, the Gray Wolf," "Stormy, the Buffalo," Tales of Endangered Wildlife, Coronet, Chicago, Illinois.

"Interrelationships of Nature," Sound filmstrip, Jamaica, New York, Eye Gate House, 1975.

"It's Just Too Much," "A Garden for Everyone," Our Environment, Sound filmstrip, Harcourt Brace Javanovich films, 1976.

"Pollution of the Waters," "Pollution of the Atmosphere," Pollution, Herb Karp, HM Stone Productions, New York, N.Y.

"The Cloudmaker," "The Day the Litter Talked," "A Sad Day for Mr. Bear," "The Stream That Lost It's Friends," "21 Maple Street," Let's Find the Pollution Solution, Dolgin, Phyllis, January Productions, Fair Lawn, N.J., 1973.



A GOOD ENVIRONMENT FOR WRITING

OBJECTIVES

1. Students will be able to write two complete, cohesive paragraphs observing the rules for capitalization and punctuation.

2. Students will be able to write much more interesting sentences using adjectives to give a better "picture of what they want to say."

3. Students will be able to really use their imaginations and will find that it is fun.

4. Students will be more comfortable sharing orally their stories, letters and poems.

5. Students will be able to write at least three different kinds of poetry.

Lesson #1

OBJECTIVES

1. Students will understand what an adjective is and why they are so important to a sentence.

2. Students will learn to associate descriptive words with nouns.

LEARNING ACTIVITIES

1. List 10 nouns on the board and have students supply adjectives for each.

2. Write several sentences without adjectives on the board and have the class supply adjectives for each.

3. Each child will write 5 descriptive sentences about the 5 ecosystems studied as 2nd graders - desert, prairie, wetlands, jungle, forest.*

Materials - pencil and paper

* Alternate topic: Bring in a bag containing about 5 things. Have students feel inside and write about what they think is in your "feel bag."

Lesson #2

OBJECTIVES

1. Children will gain proficiency with adjectives.

2. Students will learn to relate adjectives to actual objects.

LEARNING ACTIVITIES

1. The class will discuss 5 pictures and then students will select 1 object or person in a picture and write as many adjectives as possible to describe it.

2. The class will be divided into 2 groups, one group will make a list of nouns while the other makes lists of adjectives. The two groups will exchange lists and write descriptive phrases.

Materials

Five colorful photos or magazine pictures with many people or objects (outdoor scenes and natural subjects and animals) in each. Pencil, paper.

Lesson #3

OBJECTIVES

1. Students will associate adjectives with the five senses.

2. Students will become more aware of their outdoor environment by using adjectives to describe a particular natural object.

LEARNING ACTIVITIES

1. The class will list the 5 senses.

2. Using an object in the classroom the class will list adjectives to describe that object using each of the five senses.

3. Each student will select 1 natural object in the Monroe School courtyard and list adjectives to describe it using each of the 5 senses.

4. Using the adjective lists composed in the second activity students will write a one paragraph descriptive story about the nature object they chose from the courtyard.

5. Students will do a water color painting of the object they have chosen to accompany their story.

6. Students will record stories in writing folders.

Materials

A fairly large outdoor area containing many natural objects which students may choose as their subject. Water colors, construction paper, pencils, paper.

Lesson #4 & #5 - 2 hours

OBJECTIVES

1. With some teacher assistance students will be able to do research on a particular subject in nature. (e.g. a tree, birdfeeder, rock or other nature object.)
2. Students will be able to write a 2 paragraph informative paper on a subject in nature.
3. Students will be able to speak about their subject for 1 or 2 minutes.

LEARNING ACTIVITIES

1. Students will be assigned a natural object or area of the Monroe School Courtyard on which to do research.*
2. With teacher assistance students will write down all information they already had and all information they have found on on their subject.
3. Students will put the information they have into 2 coherent paragraphs.
4. Students will tape their reports to be used as a guide to the Monroe School Courtyard.
5. Students will do a picture in crayon or water color of their area to accompany their reports.
6. Students will copy their report into a booklet containing their year's writings.

Materials

Reference books for all subjects assigned, pencil and notebook paper, tape recorder, camera (to take a picture of each child at their station in the courtyard), crayons or water colors, construction paper.

*We chose 11 stations in our own school courtyard. Two or three students worked together on each station. Our stations were: 1) patio 2) flower garden 3) prairie grasses 4) pond 5)compost pile 6)bird feeder and evergreens 7) vegetable garden 8)bird feeding area-bushes 9)story circle and pussywillows 10) red granite 11)rock garden.

Lesson #6

OBJECTIVES

1. Students will use adjectives to write "list poetry."

2. Students will become more comfortable with sharing orally their writings.

LEARNING ACTIVITIES

1. The teacher will explain and five examples of list poetry. (List poetry is simply a list of all words that might describe a certain sensation. e.g. - all words to describe the feel of a blizzard.)

2. The class wil write together 2 or 3 list poems.

3. Each student will write their own list poem about a subject in nature of their choosing.

   Suggestions:
   a. The sound of water
   b. The sound of trees in the wind
   c. The sight of a sunset
   d. The smell of a flower garden in summer
   e. The feel of toes in mud or sand

4. Students will share their poems orally.

Lesson #7

OBJECTIVES

1. Students will use adjectives to write pyramid poetry.

2. Students will enrich their vocabularies.

LEARNING ACTIVITIES

1. Teacher will explain and give several examples of pyramid poetry.*

2. Class will write 1 or 2 pyramid poems together.

3. Each student will write a pyramid poem of their own.

4. Students will make the subject of their poem out of cut paper and copy the poem on the picture.

5. Students will copy the poem in their writing folders.

*form for pyramid poetry:
line 1 - 1 word subject of the poem
line 2 - 2 adjectives to describe the subject
line 3 - 3 -ing or -ed verb forms
line 4 - 2 or more short sentences or questions about the subject.

Lesson #8

OBJECTIVES

1. Students will become more proficient in the use of their imaginations.

2. Students will be able to write 1 imaginative but coherent paragraph using proper capitalization and punctuation.

LEARNING ACTIVITIES

1. Students will spend 1 minute quietly thinking about how it would feel to be an ant in the grass.*

2. Students will write 1 paragraph answering the questions: If you were an ant in the grass how would you feel? What might you see? What would you be thinking about?

3. Students will record their stories in their writing folder.

*Alternate topic: Write a letter to the "Great Dandelion."

Lesson #9

OBJECTIVES

1. Students will be able to write a riddle about an object in nature for classmates to guess.

2. Students will become more proficient in the use of descriptive words.

LEARNING ACTIVITIES

1. Read some riddles to the class.

2. Class will review the definition of a riddle and write 1 or 2 together.

3. Each student will write 1 or 2 riddles of their own about animals or plants.

4. Students will share riddles with classmates.

Lesson #10

OBJECTIVES

1. Students will improve proficiency in the use of their imaginations.

2. Students will become more observant of simple things going on around them.

LEARNING ACTIVITIES

1. Students will observe leaves moving on trees in the wind. (This lesson is best done on a windy autumn day when students can observe the movement of the leaves on the trees)*

2. Students will imagine themselves a leaf on a tree on a windy day and write a story about how they might feel if they were in this situation.

3. Students will record their stories in their writing folders.

*Alternate topics for spring -

1. Pretend you are a frog in a pond or a fish underwater. tell us about yourself. What do you like to do? Who comes to your pond/ lake/ river? How do you feel about humans?

2. Think of the sight, sound, feel, smell and taste of rain. Complete the following:
   Rain is______________________.
   Rain feels like____________________.
   Rain reminds me of_____________________.
   Rain is like____.

Lesson#11

OBJECTIVES

1. Given a word students will be able to give at least five rhyming words.

2. Given a noun, verb or adjective students will be able to orally respond with a sentence using that word within 5 seconds.

LEARNING ACTIVITIES

1. Students will write 3 word forms such as grow, grows and growing at the top of 3 columns on a piece of paper. In 10 minutes they will write as many rhyming words as possible for each word. (This works well when run as a class contest.)

2. The teacher will call out a noun, verb or adjective and the student called on must respond with a complete sentence using that word.

Materials

List of interesting nouns, verbs, and adjectives.
Pencil and paper.

Lesson #12

OBJECTIVES

1. Students will become more proficient in the use of adjectives.
2. Students will enrich vocabulary.
3. Given 20 words students will be able to give the opposite for each word.
4. Students will be able to write Diamante Poetry.

LEARNING ACTIVITIES

1. Teacher will demonstrate several examples of diamante poetry.*
2. Class will write at least 2 diamante poems.
3. Each student will write their own diamante poem.

Materials - Paper and pencil

* Form for Diamante Poetry

line 1 - noun subject of poem
line 2 - 2 adjectives to describe it
line 3 - 2 ing words that tell things the noun does or has done to it.
line 4 - 4 nouns related to line 1
line 5 - 3 participles (ing) that show a change in line 1
line 6 - 2 adjectives to describe changes in line 1
line 7 - a noun that could be opposite of line 1

Example:

snow
cold, white
falling, whirling, blowing
ice, winter, drift, shovel
melting, freezing, packing
hard, slippery
puddle

Lesson #13

OBJECTIVES

1. Students will become more adapt at using their imagination and learn how much fun they can have with it.
2. Students will be able to write 2 cohesive paragraphs.

LEARNING ACTIVITIES

1. Students will imagine that they are a) a turtle who can swim backwards or b) a fish who can become invisible.

2. Students will write 2 paragraphs, the first explaining who they are, where they live and what they can do; and the second relation an adventure they might have involving their strange ability.

3. Students will copy their story into their writing folder.

Lesson #14 & #15 - 2 hours

This two day or two hour lesson coming about mid-way in this series of creative writing lessons could be used as a test of the cildren's use of descriptive words and imagination and also their ability to construct two complete cohesive paragraphs.

OBJECTIVES

1. To test the students' ability to use adjectives.

2. To test the students' ability to use his/her/ imagination.

3. To test the students' knowledge of the rules governing capitalization and punctuation.

4. To test the students' ability to construct complete, cohesive paragraphs.

LEARNING ACTIVITIES

1. The students will write 2 paragraphs:

    a. Describe what Janesville would look like if someone stole all the trees and flowers and bushes. How would the people of Janesville feel?

    b. Pretend you are "Sherlock Snuffer," the detective assigned to this case. How would you go about finding clues, where would you look for the culprits, and what would you do if you found them?

2. Students will do a watercolor picture to accompany their story.

3. Students will share stories and pictures.

4. Students will record in their writing folders.

Materials - Pencil, paper, water colors, construction paper.

Lesson #16 - 1½ hours

OBJECTIVES

1. Students will become aware of some of the ways that we all pollute our environment.
2. Students will become aware of the effects of pollution plants and animals.
3. Students will become familiar with the proper way to write a letter.

LEARNING ACTIVITIES

1. The class will list and discuss some of the ways we pollute our environment and how this might affect several differant plants and animals.
2. The teach will demonstrate the correct way to write a friendly letter.
3. The students will imagine themselves an animal of the land, sea or air and write a letter to the people of planet earth informing them of their plight and offering suggestions on how things might be improved.

Lesson #17

OBJECTIVES

When given a noun students will be able to give at least 3 adjectives to describe how it affects each of the 5 senses.

LEARNING ACTIVITIES

1. The class will review and list the 5 senses.
2. Each student will describe one of the following words as it app to each of the 5 senses:
   sunset, rainbow, rose, freshly cut wet grass, a patch of dirt.
3. Write a 1 paragraph story telling how it would feel to walk barefoot in the mud or sand.*

* This lesson, using the first two activities, is an easy "fill in" after lesson 16 because that lesson requires about 1½ hours to complete. This lesson can be used for the rest of the hour.

Lesson #18 and #19 - 2 hours

OBJECTIVE

The students will "have a ball" letting their imaginations "run away with them."

LEARNING ACTIVITIES

1. Students will write at least 1 paragraph describe what might happen if mosquitos decided to band together to fight their enemy - humans. The following questions might help spark their imaginations.
    a. What is their plan?
    b. Will they wage war?
    c. What will happen?
    d. How would you feel if you lived in a world ruled and dominated by mosquitos?
2. Students will record their writing in their folder.
3. Students will share their stories with the class.
4. Students will make a crayon mural of the battle between mosquitos and humans.

Lesson #20

OBJECTIVE

The children will understand what an alliteration is and be able to write an alliteration.

LEARNING ACTIVITIES

1. The teacher will explain what an alliteration is and give several examples.
   An alliteration is a phrase or sentence in which all words begin with the same letter.
   e.g. - Tim's ten toes tickled Tom.
2. The class will together make a chart of nature alliterations. It works well if you first list things associated with whatever season it is at the time.
3. Students will write and illustrate 1 alliteration.
4. The class will have a contest to find the most unique alliteration. Both creativity in writing the alliteration and in illustrating it should be considered.

This is an example of a chart written by one student group.

Autumn Alliterations

1. Ten tall trees trembled.
2. Two tiny toads tickled Tammy.
3. Lively leaves laugh lightly.
4. Adam ate auful apples.
5. Seven squirrels scattered seeds.
6. Grass grows green.
7. Dandelions dance delightedly.
8. Barb buys big blackberries.
9. Nini needs nice nuts.
10. Penny picks proud pumpkins.

Lesson #21

OBJECTIVES

1. Students will become more observant.
2. Students will improve their memories.
3. Students will be able to describe a given object well enough that others will know what it is.

LEARNING ACTIVITIES

1. The class will take a walk around the school yard or on the school nature trail.
2. When they come in students will write down as many things as they can remember that they saw. Suggestion: This might work well as a contest.
3. Each student will write one thing he saw on a piece of paper, fold it and place it in a coffee can.
4. After the teacher has mixed up the slips, each child will draw one. When called upon he will give two clues about the object on the piece of paper he drew, and the class will try to guess what it is.

Lesson #22

OBJECTIVES

1. Students will be able to list some of the ways that the sun affects plants and animals and man.
2. Students will be able to explain how the lives of plants, animals and man would be changed if the sun moved closer.
3. Students will be able to write 2 complete cohesive paragraphs explaining their observations in objective one and two.

LEARNING ACTIVITIES

1. Students will together, as a class, make a list of the ways that the sun affects the lives of plants, animals and humans.

2. The students will write 2 paragraphs; the first explaining some of the ways the sun affects us, and the second telling what they think might happen if the sun were suddenly to move much closer to earth.

3. The students will record their writing in their writing folders.

Lesson #23

OBJECTIVES

1. Given a simple sentence, student will add adjectives to make it more interesting.

2. Given an adjective, students will be able to give a word that means the same as the first word and one that means the opposite.

LEARNING ACTIVITIES

1. Students will be given a sheet containing 10 simple sentences. They will add adjectives to make the sentence more interesting.

   Ex. Write each sentence in a more interesting way by using adjectives where you think they are needed.

   1. John fell in the mud.
   2. I like blackberries.
   3. We saw a bird.
   4. We watched the sun set.
   5. The wind blew the trees.
   6. The leaves turned different colors.
   7. The squirrel went up the tree.
   8. We watched the snow fall.
   9. I jumped in the snow.
   10. It was wet out.

2. Students will be given a sheet containing 10 sentences with underlined words. They will write a word that means the same as the underlined word and one that means the opposite.

   Ex. In the spaces next to each sentence write a word that means the same as the underlined word and one that means the opposite.

	Same	Opposite
1. The wind sent a chill through me.		
2. The grass was still damp.		
3. The graceful bird floated to the ground.		
4. Tom threw the bitter berries away.		
5. Her hands were red and raw.		
6. The air was frosty.		
7. The flowers were many brilliant colors.		
8. I saw a huge footprint.		
9. The rain pelted in her face.		
10. The bear lumbered away.		

Materials - Two ditto sheets containing 10 sentences each, pencils.

RESOURCES - BOOKS

Eco, Educational Service Inc.

Spice, pp. 157-161 & 215-220, Educational Service Inc.

Booklets

Christianson, Fred, Springboards to Creative Writing, various unnumbered pages.

King, Richard, P.Ed.D., Imaginators for Creative Writing, pp. 8, 21, 22, 27, 28, 36, 38, 41, 50, & various unnumbered pages.

Language in the Out of Doors, various unnumbered pages, Upper Mississippi River Eco Center, Thompson, Ill.

Activity Boxes

Educational Insights Inc., "Write On," 50 writing activities for grades 3 and up.

Educational Insights Inc, "The Language Arts Box," 150 games, activities, and manipulatives.

FIELD TRIP TO A LOCAL PARK

Worksheet for second and third grade students.

One parent with 5-6 students per group.

Materials: Clipboard, worksheet, pencil, baggie.

Instructions: Four activities are listed below - do as many as you have time for in whatever order you prefer.

I. PLANTS AND SEEDS - Use your baggie for a seed collection. See if you groups can find at least ten different types of seeds. Do not break any branches. Remember that acorns and other nuts are seeds.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

II. SIGNS OF SPRING (OR FALL) See if your groups can find at least ten different signs of spring (or fall). List them here.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

III. VISIT THE STREAM - Look for signs of wildlife along the stream.

Find evidence of changes in the banks or shoreline. What caused the changes? Is it natural or man-made?

Look for pollution. List evidence of pollution. What could be done to stop this pollution?

IV. ANIMAL HOMES - Find and describe at least five animal or bird homes.

SECOND AND THIRD GRADE FIELDTRIP TO THE MILWAUKEE ZOO

Study-worksheet - one sheet per each parent and group of
4 or 5 students
based on zoo groupings

NORTH AMERICAN GROUP

Name two animals of the deer family.

Name two animals that live in water.

Another name for Bison is ____________________.
Write a paragraph describing the Bison.

ASIATIC GROUP

What animals are prey of the tigers?

Write a paragraph describing the Bengal tiger. Be sure to answer the questions: What does he look like? What is his habitat? What does he eat?

AFRICAN GROUP

Name two animals that are predators. Name their prey.

What is the world's fastest land mammal?

What is the world's largest bird that does not fly?

What are some unusual characteristics of a giraffe?

What are some unusual characteristics of an elephant?

SOUTH AMERICAN GROUP

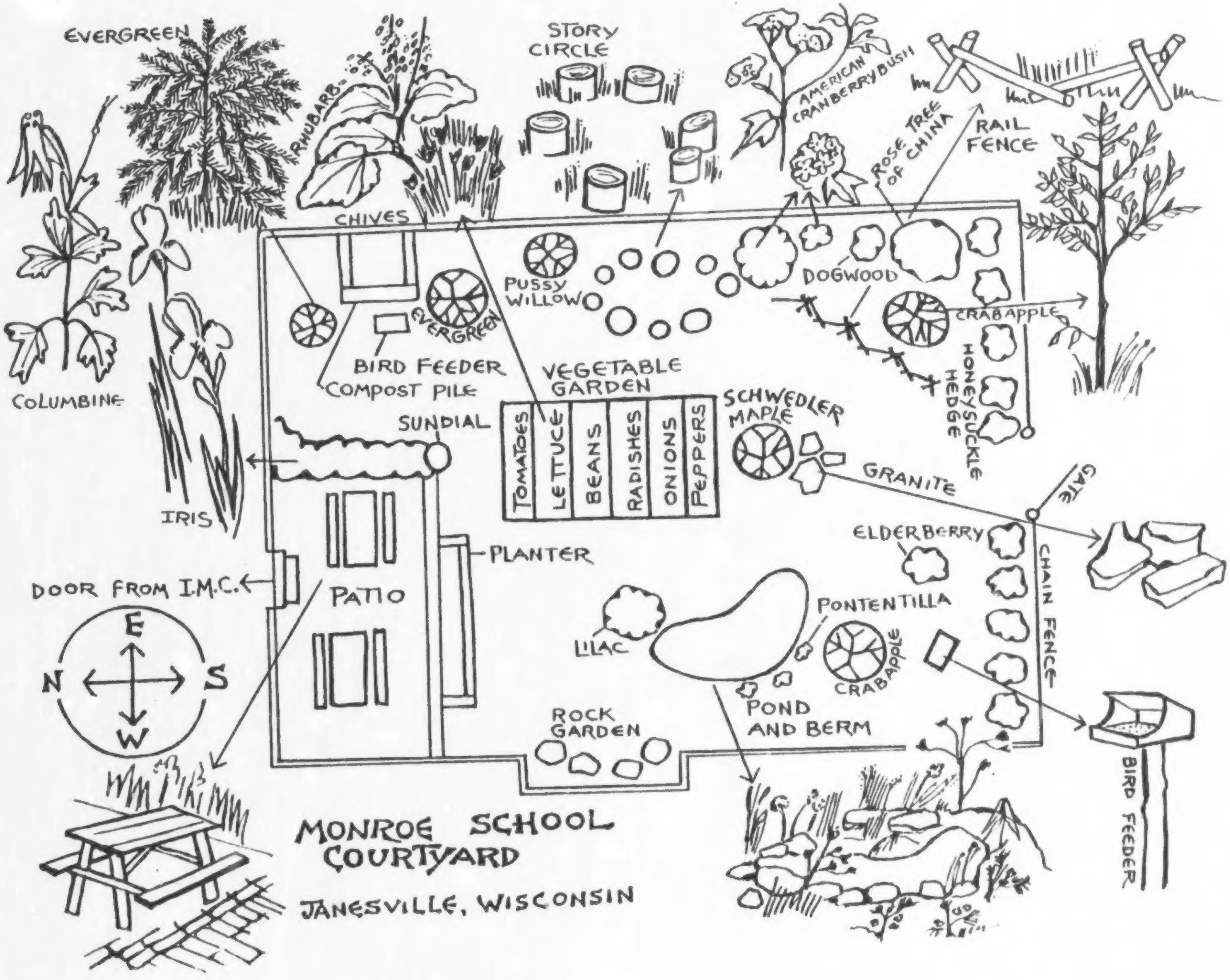
Name a meat eating predator in the group.

Fill in the blanks on this bird chart.

	SWAN	PARROT	PENGUIN	FLAMINGO
color				
beak				
legs				
habitat				

AUSTRALIAN GROUP

Draw a picture of one marsupial (pouched animal).


MONROE SCHOOL COURTYARD

JANESVILLE, WISCONSIN

EVERGREEN
STORY CIRCLE
RHUBARB
AMERICAN CRANBERRY BUSH
ROSE TREE OF CHINA
RAIL FENCE
COLUMBINE
CHIVES
PUSSY WILLOW
DOGWOOD
CRABAPPLE
EVERGREEN
BIRD FEEDER
COMPOST PILE
VEGETABLE GARDEN
HONEYSUCKLE HEDGE
SCHWEDLER MAPLE
SUNDIAL
TOMATOES
LETTUCE
BEANS
RADISHES
ONIONS
PEPPERS
GRANITE
GATE
IRIS
ELDERBERRY
PLANTER
CHAIN FENCE
DOOR FROM I.M.C.
PATIO
PONTENTILLA
LILAC
E
N
S
W
CRABAPPLE
ROCK GARDEN
POND AND BERM
BIRD FEEDER

MONROE SCHOOL COURTYARD IS ENVIRONMENTAL LEARNING CENTER

What was formerly a barren area surrounded on three sides by the Monroe School building has now become a living learning center complete with a bird feeding area, vegetable garden, miniature prairie, frog pond, and geology display.

Monroe Principal, Richard Skyles, working with a Courtyard Committee from the MOPT (Monroe Organization of Parents and Teachers). Many hours as well as many plantings were donated for the courtyard by both parents and students. Other plantings and materials were purchased through a memorial fund and gifts from the MOPT and Girl Scouts.

A door leading from the school IMC gives easy access to the courtyard. A patio made of old brick and furnished with two picnic tables provides a spot for students to write and draw or read. A planter filled with different herbs offers students a variety of "smelling" experiences in the courtyard. Tasting experiences come from the small (12' x 16') vegetable garden planted annually by kindergarten students. Chives, rhubarb, and mint are growing along with common garden vegetables such as carrots, tomatoes, beans, onions, lettuce, radishes, and cabbages.

A bird-feeding area is marked off by a colonial fence and includes such bird attracting plants as American cranberry, elderberry, dogwood, crabapple, and honeysuckle. A small pond was created with an old blue swimming pool liner and lannon stones donated by Monroe families. In the prairie area second grade students have planted a variety of prairie grasses and wildflowers including gay feather, gentian, leadplant, and coneflowers. The rock collection has been built by students bringing stones "smaller than footballs" from various parts of the United States.